Sense of coherence among religious and non-religious students from Germany and Poland

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Gehe nicht, wohin der Weg führen mag,
sondern dorthin, wo kein Weg ist,
und hinterlasse eine Spur.

Jean Paul

Ich widme diese Dissertation
meinen Söhnen,
Erik und Jan

Vorwort

Mein Dank gilt all jenen, die mich bei der Arbeit an dieser Dissertation unterstützt haben, sei es unmittelbar durch Anregungen, Ratschläge und Kritik, sei es mittelbar durch die notwendige Ablenkung von der Arbeit.
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Malgorzata Schonder
Braunschweig, Dezember 2015

Zusammenfassung

Diese Forschung leistet einen empirischen Beitrag zu den Fragen, ob und wie wichtig die soziokulturellen Faktoren (GRRs) für das Kohärenzgefühl (SOC) und die Bewältigungskapazitäten sind. Darüber hinaus wird den folgenden Forschungsproblemen nachgegangen:

1. Die Bedeutung der Religiosität, der Landeszugehörigkeit und der Religionszugehörigkeit für das Kohärenzgefühl (SOC) und für die Bewältigungskapazitäten (den wahrgenommen Stress—PSS, die Selbstwirksamkeit — GSE).
2. Der simultane Einfluss der Religiosität und der Landeszugehörigkeit auf das SOC.
3. Der simultane Einfluss der Bewältigungskapazitäten und der Landeszugehörigkeit auf das Kohärenzgefühl.
4. Der Zusammenhang zwischen den gegebenen soziokulturellen Faktoren und dem Wert des Kohärenzgefühls.

Unter dem Begriff Religiosität werden hier die Stärke der religiösen Überzeugung (SCSORF), die organisierten (z.B. Gottesdienst) und nicht organisierten (z.B. Bibel lesen) religiösen Aktivitäten (ORA, NORA) analysiert.

Die untersuchte Stichprobe umfasste 2266 Studierende aus Deutschland (71.6%) und Polen (28.4%) im Alter von 19-30 Jahren (Durchschnittsalter 23.4 Jahre). 21.7% der Befragten hatten evangelische (nur in Deutschland), 32.3% katholische und 6.3% buddhistische Religionszugehörigkeit. 39.4 % der Studierenden waren Konfessionslose.

Es lässt sich anhand der Ergebnisse belegen, dass die religiösen Studierenden über ein besseres Kohärenzgefühl, eine bessere Selbstwirksamkeit und eine geringere Stresswahrnehmung verfügen als die weniger religiösen Studierenden. Die konfessionslosen Studierenden haben ein geringeres SOC als die gläubigen Studierenden.

Im Vergleich mit den anderen Religionsangehörigen präsentieren Buddhisten ein stärkeres Kohärenzgefühl. Bei den Buddhisten zeigt sich auch eine relevant geringe Stresswahrnehmung und eine starke Selbstwirksamkeit im Vergleich zu den anderen Gruppen.

Bei der Betrachtung der Bewältigungskapazitäten waren die deutschen Befragten stärker gestresst und hatten eine schwächere Selbstwirksamkeit als die polnischen Befragten. Es gab keine Unterschiede im SOC zwischen den Ländern.

Weitere Ergebnisse deuten darauf hin, dass der Einfluss des Gottesdienstes für das polnische SOC stärker gewesen ist, als für das deutsche SOC. Auch die Stresswahrnehmung beeinflusste das Kohärenzgefühl der Polen stärker, als das SOC der Deutschen. Die Polen hatten unter der simultanen Wirkung der Landeszugehörigkeit und der Selbstwirksamkeit ein

geringeres SOC als die Deutschen.

Die Religionszugehörigkeit prognostizierte den Wert des polnischen SOC am stärksten und den Wert des deutschen SOC viel schwächer. Außerdem zeigten die Ergebnisse, dass nur ein geringer Teil der Varianz im SOC durch die erhobenen Religiositätsindikatoren erklärt wurde und dieser Anteil in Deutschland noch geringer gewesen ist, als in Polen.

Daraus lassen sich folgende Schlussfolgerungen ziehen: Es zeigt sich, dass die untersuchten Aspekte der Religiosität und Religionszugehörigkeit generell wichtig für das Kohärenzgefühl, die Stresswahrnehmung und für die Selbstwirksamkeit sind. Zusätzlich betonen die Ergebnisse die hohe Relevanz der Landeszugehörigkeit für die Bewältigungskapazitäten. Die Bewältigungskapazitäten wirken differenziert auf die Stichproben und beeinflussen das SOC unterschiedlich in den Ländern.

Schließlich lässt sich feststellen, dass die Einflussstärke des Gottesdienstes und der Religionszugehörigkeit auf das SOC von der Landesangehörigkeit abhängt. In einem katholischen Land wie Polen gewinnt dieser Einfluss an Bedeutung. In einem säkularen Land wie Deutschland verliert er an Relevanz.

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1. Introduction

Health can be determined not only through favourable biological factors, but also through the socio-demographic and cultural aspects of environment. Good health is a result of various life circumstances; therefore, it is not steady. There is a need for more research in order to gain comprehensive understanding about good health and its various determinants.

Awareness about the possible impact of psychological factors on somatic health flourished in the early 20th century. Along with the development of stress theory in the 1970s, studies on the significance of psychosocial factors and personality with regard to health became common. Scholars have defined negative (Type A personality, depression, anxiety) and positive (optimism, self-efficacy, locus of control) features that may influence health.

In the late 1970s, the medical sociologist Aaron Antonovsky gave currency to the concept of sense of coherence (SOC). The salutogenic construct arose from the earlier research tradition of paying attention to psychosocial sources of health.

Nonetheless, unlike other related theories, his theory focused on the question: How do people manage stress and stay well? He primarily emphasized the salutogenic aspect over the pathogenic aspect of tension. Moreover, the definition of the construct shows that it is not about a fixed way of behaving in a given situation; it is more about a flexible orientation to life, which in turn results in successful coping.

Antonovsky highlighted the crucial role of General Resistance Resources (GRRs) in the development and the level of SOC. Many of these GRRs, such as childhood living conditions, education, wealth, occupation, social class, and social support, have been widely studied. Religion is another GRR listed by the scholar. However, it is a much-neglected line of research. Therefore, the first aim of this study is to fill this research gap and examine the relationship between religion and SOC.

Another open question concerns the value of SOC across different cultures. On the one hand, SOC is a universal construct to measure a global life orientation, which is why it should not significantly differ across countries. On the other hand, cultural-historical sources contribute to GRRs. Therefore, culture has significant implications for SOC. Moreover, Antonovsky wrote:

> *'It is not at all accidental that certain individuals and social groups are likely to have much stronger sense of coherence than others. Particular social-structure and cultural-historical situations are quite likely to provide the developmental and reinforcing*

experiences that results in a strong sense of coherence' (Health, Stress, and Coping 1979, p. 137*).*

Nonetheless, there is very little research focusing on this subject. Thus, the next goal of this study is to compare the value of SOC in two countries—Germany and Poland.

Denomination is a part of culture that helps in shaping SOC via GRRs. To the best of my knowledge, there are no studies in this field. Therefore, it is important to take this first step and determine whether religious affiliation has any meaning for the strength of SOC.

Last but not least, this study seeks to gain a more comprehensive understanding of coping with stress in the cross-cultural context. Though, there have been a large number of investigations into stress, only some of these include a comparative study of different nations. It is undeniable that stressors appear in all cultures and are differently distributed and perceived across countries (Antonovsky, 1979). Therefore, the last two research problems of this study deal with the coping capacities of German and Polish students.

After clarifying the central concerns of this research, I go on to provide an outline of this thesis.

Chapter 2.1 discusses the genesis of salutogenesis. It provides a historical background of the shift from pathogenic approach to health, understood as a continuum. Having set salutogenesis into a certain historical time, in Chapter 2.2 I define the salutogenic construct called 'sense of coherence' and explore its components. Chapter 2.3 briefly introduces GRRs and their role in shaping SOC. It also shows how GRRs, together with SOC, impact the coping procedure. Chapter 2.4 presents empirical evidence of the importance of SOC for health. Moreover, it focuses on research investigating the degree to which certain GRRs contribute to the strength of SOC.

Religion and its multidimensionality are crucial issues in this study. Chapter 2.5 is devoted to studies about different religious indicators in connection with health. As already mentioned, there is no empirical evidence for the role of religious affiliation in SOC. However, there is a small group of research that has analysed denomination in the coping process (Chapter 2.5.4). Finally, the theoretical part closes with a short research overview of coping capacities from a cross-cultural perspective (Chapter 2.6).

Chapter 3—the empirical part—presents us with questions that crystallized after the consideration of the theory and the relevant studies. It introduces five main research problems:

Problem I examines potential differences in SOC after considering certain given factors—religious indicators, country, and denomination.

Problem II examines potential differences in the coping capacities after considering certain given factors—religious indicators, country, and denomination.

Problem III investigates whether SOC is the same across countries in light of religious indicators.

Problem IV investigates whether SOC differs across countries in light of coping capacities.

Problem V investigates how the given factors (religious indicators, denomination, and country) contribute to the strength of SOC, and whether this contribution may differ from country to country.

After the questions and research models are fixed, the methods are discussed. Chapter 3 ends with a description of the results. Chapter 4 attempts to answer the questions and tries to gain a more comprehensive understanding of SOC based on the inclusion of socio-cultural determinants. Finally, Chapter 5 throws light on the limitations of this study and shows the implications for future research.

2. Theoretical part

2.1 Salutogenic paradigm: A shift from the biomedical to the psychosocial approach

In the 19th century, epidemiologists and clinical scientists needed to find solutions to the new health problems triggered by the Industrial Revolution in western societies. The transition from manual production to machine production methods changed the living conditions of the people. At that time, the main issues for modern public health were the prevention of disease in overcrowded cities[1] and the health needs of the population as a whole. Naturally, scientific curiosity was focused on the identification of external factors that had a negative impact on health and the course of diseases; i.e. it focused on the pathology of disease (pathogenese— *pathos*: suffering and *genesis*: origin in Greek). Technical developments contributed to progress in the field of medicine[2], which confirmed the scientists' belief that holistic health could be attained through the elimination of the risk of disease.

Therefore, at the core of the biomedical or the pathogenic paradigm is a dichotomous classification of a person as either healthy or diseased, and disease is seen as a disturbance in the normal and a balanced state of the human body, called homoeostasis (*homo:* constant and *stasis:* stable in Greek)[3].

Compared to all other historical periods, the 20th century witnessed the greatest health progress in industrialized population. Advancements in the welfare system and modern medicine resulted in an incredible increase in the average lifespan of the population and a significant decline in infant mortality.

Progress has changed the panorama of disease. Especially in the second half of the 20th century, a transition took place from the prevalence of acute life-threatening diseases to chronic, mostly non-life-threatening and lifestyle-related illnesses[4]. The main aims of modern

1 In 1750, only 15% of the population lived in towns. However, by the time Phillipp Reis invented the telephone in 1860, nearly 80% lived in urban areas. Many houses were poorly built with no lights or ventilation. Overcrowded rooms, polluted water, and unsanitary conditions resulted in the spread of diseases. Of all infants, 20% died before reaching their first birthday (Rosner 2010).

2 1816: René Laënnec invented the stethoscope; 1819: British obstetrician James Blundell performed the first successful transfusion of human blood; 1867: Joseph Lister developed antiseptic surgical methods, using carbolic acid to clean wounds and surgical instrument; 1870: Louis Pasteur and Robert Koch proposed the germ theory of disease— diseases are caused by microorganisms. Prior to this discovery, most doctors believed that diseases were caused by spontaneous generation. Between 1879 and 1897, many vaccines against different diseases were invented (for example against cholera); Felix Hoffman developed aspirin (Bynum 1994, Rogers 2011).

3 The human body manages many highly complex interactions to maintain balance or return systems for functioning within a normal range (Franke 2010).

4 Cancer, diabetes, obesity, cardiovascular diseases, muscle- and skeleton-related problems, and mental illnesses

public health services were protection and prevention, but the new century also brought a need to empower people and societies to take responsibility for their own health. The health promotion movement, which became an important alternative approach to the biomedical model, gave rise to post-modern public health (World Health Organization)[5] and a framework for the salutogenic construct, which concentrates on the psychosocial resources of health and on the process of health promotion (Eriksson and Lindström 2008).

The salutogenic approach was first formulated by a medical sociologist named Aaron Antonovsky. This idea occurred to him during his epidemiological investigation into the menopause-related problems faced by women from different ethnic groups in Israel. He found that members of a particular group shared a common experience—they were survivors of Nazi atrocities in the concentration camps. Despite the dramatic experiences in their past, these women were able to maintain health and lead a good life. This observation formed the basis of the salutogenic theory (*salus:* health and *genesis:* origin in Greek), which was developed to answer the questions raised by Antonovsky: What is the cause of human health? How do people manage to maintain and develop their health, and what factors make this positive process happen? He proposed that the sources of health, and not the causes of diseases, should be researched (Antonovsky 1979, Eriksson 2007).

The point of departure for the scholar was a new definition of health, which was seen as a movement on a continuum in which total health and total illness are the extreme poles. According to him, people are neither completely healthy nor completely sick. During their lifespan, all individuals find themselves at a certain point on the continuum, being either more in the direction of health or more in the direction of disease. This new view of health stands in contrast to the traditional, dichotomic definition of this state, in which both health and disease were absolute conditions.

Moreover, Antonovsky assumed that, unlike the assumption of the pathogenic paradigm, human nature is heterostatic rather than homoeostatic. Imbalance, suffering, and death are inherent to human life. In the traditional approach, homoeostasis was considered to be a normal state that could be maintained if one could only learn to avoid risk factors.

Another important point in the salutogenic theory was the new view regarding stressors. During their lifespans, people find themselves in situations to which they cannot automatically respond. Such situations are stressors. Antonovsky saw stressor as and entropic[6]

(Heimburg 2010).

5 Public health established World Health Organization on 7 April 1948.

6 A term used in the field of thermodynamics, 'entropy' is a measure of disorder in a system. Disordered states are more probable than ordered states. The ordered states become easily disordered (Franke 2010).

force, increasing the disorder level in the system. The stressor is not something unusual or pathogenic; rather, it is something omnipresent[7] and open-ended in terms of consequence. These consequences can be pathological, neutral or salutary. The outcome depends on tension management—the process of dealing with tension. Poor tension management moves us towards diseases while good tension management leads us towards health on the continuum (Antonovsky 1979).

2.2 SOC and its components

Looking for the origins of health and the explanation for a movement on the health–disease continuum, Antonovsky developed a construct called sense of coherence (SOC). He defined it as:

> *'a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that the stimuli deriving from one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected*' (*Health, Stress, and Coping* 1979, p. 123).

It is a generalized and lasting perception that regulates decisions about one's way of seeing, feeling, and understanding the world. The attitude is neither rigid nor determined by genes or early childhood; it is dynamic and can be modified during one's lifespan. All these fluctuations, however, take place around a stable location on the continuum. A mature SOC occurs in adulthood (Antonovsky 1979).

In a broader analysis of SOC, Antonovsky described its three key components—comprehensibility (cognitive element), manageability (instrumental or behavioural element), and meaningfulness (motivational element).

Comprehensibility concerns a way of perceiving factors that come from both internal and external environments. It is understood as a conceptual view of the world as being orderly, predictable, and consistent rather than random, chaotic, or unforeseeable. A person with a high sense of comprehensibility will tend to expect that most factors are predictable; if these factors appear as a surprise, the person will be able to make sense of them by assigning them to something (Antonovsky 1987).

The sense of manageability comes from the recognition of a person's inner resources, and the

7 Antonovsky (1979) categorized stressors as physical-biomedical (for example, infectious agents) and psychological stressors (for example, our inner fears or horrors of history).

willingness to discover them and use them to cope with problems. It is the ability to perceive accessible supplies in order to meet requirements. These include inner as well as outer sources, such as people and institutions that support us. An individual with strong manageability will see himself or herself as a creator of life, rather than as a victim. The individual can easily evaluate his or her external and internal resources in order to cope with a certain situation (Antonovsky 1987).

The last component, called meaningfulness, is based on the feeling that one's own life or some problems in life have some meaning and are worth spending energy on. It instils strength in a person to invest commitment and energy in daily activities. An individual with a strong sense of meaningfulness will tend to see problems and requirements in life as something worth effort, devotion, and involvement. Misfortune will become a challenge in which one tries to see sense and do one's best to cope with it. Meaningfulness is an emotionally motivating factor that gives one faith that events are important, valuable, and worthy of engagement (Antonovsky 1987).

2.3 General Resistance Resources (GRRs)

SOC is a complex construct that constitutes health; however, it is not an independent variable without boundaries. Life experience and GRRs are extremely significant for strong SOC. The degree to which our lives provide us with GRRs determines the strength of our SOC (Antonovsky 1979).

The author listed five types of GRRs—physical and biomedical, artifactual-material, cognitive-emotional, valuative-attitudinal, interpersonal-relation, and macro-sociocultural.[8] In general, they can be categorized into individual, social, and macro-sociocultural.

An individual with strong SOC will use the available GRRs to cope with a state of tension caused by some inner or outer disturbances. If it is managed in the right way, the state of tension does not lead to disorder or disease. In other words, the position of a person on the continuum depends on the interactive processes between stressors (burden factors) and GRRs (protection factors) within the context of the life experience of the person (Antonovsky 1979).

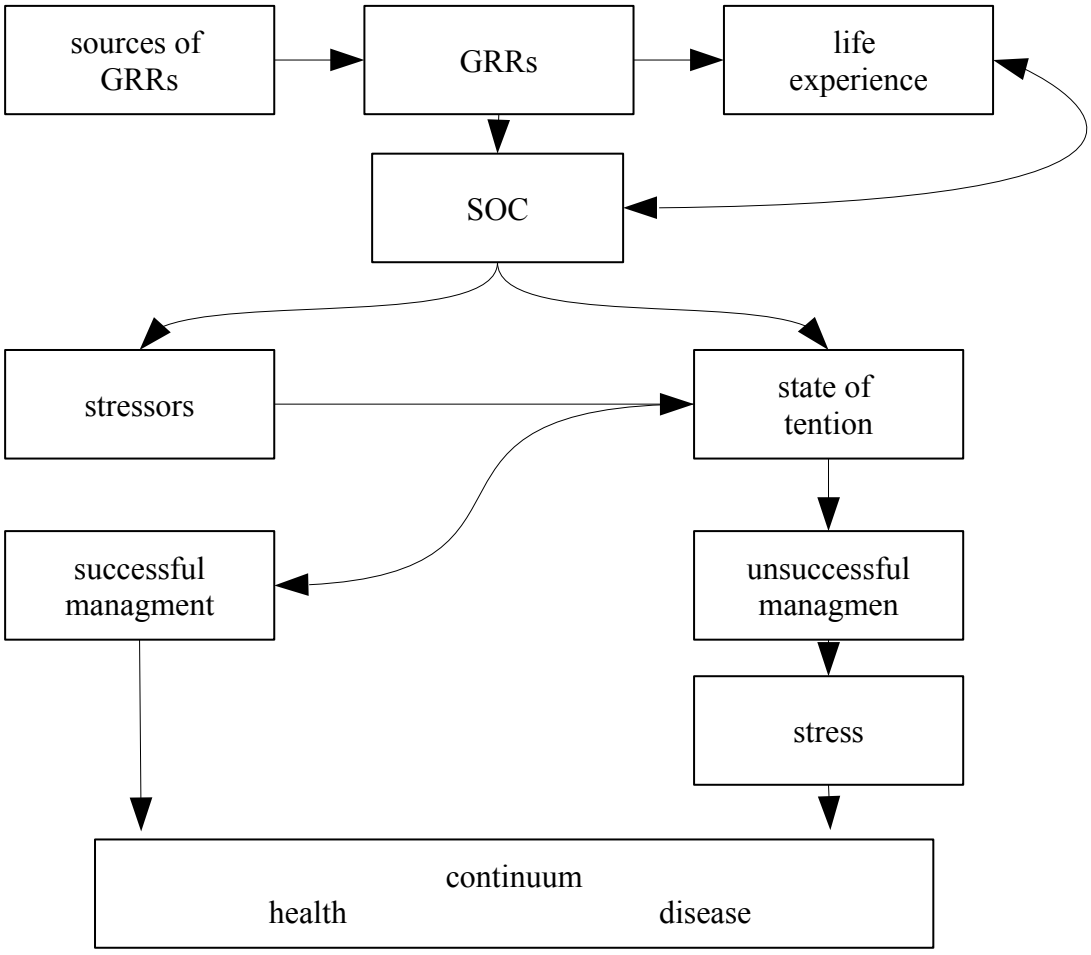
The context of a person's life provides sources for GRRs. Antonovsky listed psychological

8 Antonovsky (1979) identified the following GGRs: physical and biomedical: local adaptation syndrome and general adaptation syndrome; artifactual-material: money, physical strength, food, shelter; cognitive-emotional: knowledge-intelligence, ego-identity; valuative-attitudinal: rationality, flexibility, far-sightedness; interpersonal-relation: social network such as family, friends, commitment; and macro-sociocultural: community, religion, magic.

(e.g. childhood patterns), socio-structural (e.g. social class), and cultural-historical (e.g. cultural patterns, cultural stability) sources. To be precise, culture was defined by the scholar as a source of stress as well as a source of GRRs. He viewed cultural stability as the most powerful GRR that leads to strong SOC, whereas cultural instability was seen as a stressor that leads to poor SOC. Culture is an essential factor in one's life situation. Therefore, culture has an influence on movement on the continuum towards either health or disease. While stressors are omnipresent in all cultures, they are distributed and perceived in various ways between cultures (Antonovsky 1979, 1987, 1990).

> '[...] *by a very nature of human cultures, there is a wide sphere of consensus about what would be perceived as a stressor.* [...] *The phenomena defined as such may differ; the extent of confrontation differs relatively little'* (*Health, Stress, and Coping* 1979, p. 73*).*

Picture I A simplified version of Antonovsky´s salutogenic model (1979).



2.4 SOC: Research review

Since the salutogenic ground-breaking construct was put forward, numerous research works have been carried out into the connection between health and SOC. I divided this growing volume of literature into the following categories.

The first category concentrates more on the physical aspects of health, such as general health, somatic complaints, subjective health, health behaviour, risk behaviour, and absence of disease (Ebert et al. 2002, Kivimäki et al. 2000).

The second group investigates SOC in the context of psychological well-being, e.g. stress, anxiety, and depression (Zirke et al. 2007, Moksnes et al. 2011).

The third body of research focuses on the relation between SOC and certain predictors of well-being, such as locus of control, mastery, optimism, life satisfaction, self-esteem, and self-efficacy (Johnson 2004, Coward 1996, Smith & Meyers 1997).

2.4.1 SOC and physical and subjective sense of health

According to the first group of studies, individuals with weaker SOC have more somatic complaints such as back pain, pain in the neck or shoulders, headache or migraine, and stomach problems compared to those with stronger SOC (Kivimäki et al. 2000, Larson and Kallenberg 1996).

Moreover, subjects with high SOC have been found to be protected against coronary diseases; they also show lower blood pressure, lower heart rate at rest, and higher oxygen uptake capacity. They have better overall physical health, fewer physical symptoms of stress, fewer visits to the doctor, and fewer days off from work due to physical illness. Better SOC significantly predicts the absence of sickness among women (Poppius et al. 1999, Lundberg 1994, Pallant & Lae 2002, Kivimäki et al. 2000).

In a sample of undergraduate students, SOC appears to be a crucial predictor of perceived general health (Ebert et al. 2002). Among adolescents, SOC shows a significantly negative correlation with the symptom scales regarding physical complaints and distress (Buddeberg–Fischer et al. 2001, Moksnes et al. 2011). Adolescents with low SOC use medicine to cope with headaches to a greater extent than adolescents with high SOC (Koushede & Holstein 2009).

Additionally, physical activity among students has been found to be related to SOC strength (Kuuppelomäki & Utriainen 2003). Moreover, in a general population, higher SOC was

observed in individuals who reported physical activity at least twice a week compared to those who said they exercised less frequently (Nakamura et al. 2003). Subjects without alcohol problems also enjoy higher SOC. Strong SOC significantly reduces a number of high-risk behaviours, such as drug abuse or frequent unprotected sex (Nyamathi 1991).

Finally, a significant volume of research shows that SOC is an internal and independent resource that plays a significant role in the development of subjective health. Strong SOC predicts good subjective health among women and men (Suominen et al. 2001).

2.4.2 SOC and psychological well-being

McSherry and Holm (1994) studied whether the salutogenic construct has an impact on psychological and physiological responses to controlled stress. They found that people with low SOC invariably report more stress, anger, and anxiety than people with average or high levels of SOC. Individuals scoring low on SOC are also considerably less likely than high-SOC individuals to believe that they possess the personal resources necessary to cope with a situation. Low-SOC subjects are less approach-oriented and seem to be more distressed.

In longitudinal studies, Richardson and Ratner (2005) tested the hypothesis about the salutary influence of SOC on health during negative events. The results show that no significant correlation between recent life events (RLE) and self-reported health (SRH) was evident in individuals with higher-than-average SOC. For respondents with low SOC, a small negative impact of RLE on SRH was noticed. Researchers claim that SOC buffers the effect of stressful RLE on SRH.

Carmel et al. (1991) explored the degree to which SOC and RLE are connected to health (psychological and physical well-being and functional ability). An important correlation between the measures has been found—the higher is the frequency of stressful events, the worse is the reported health, while the higher is SOC, the better is the reported health. However, scholars discovered that while RLE has a negative impact on women's health, SOC has no significant counterbalancing effect on their health. Among men, the opposite phenomenon has been noticed—their health is not affected by RLE but is considerably affected by their SOC.

According to other important studies carried out among adults, poor SOC corresponds to a depressive episode or to recurrent depressive disorders. Moreover, a strong inverse correlation has been found between anxiety trait and SOC (Zirke et al. 2007, Räty et al. 2005, Hart et al. 1991, Flannery & Flannery 1990, Frenz 1990, Bernstein & Carmel 1987, 1990).

Research on a sample of young people shows outcomes similar to those carried out in the

adult population. Among the adolescents, an inverse association of SOC with both depression and anxiety has been proved (Moksnes et al. 2011).

In addition, university students with low SOC suffer more from somatic maladies in stress situation, while students with strong SOC do not give evidence of such a linkage (Jorgensen et al. 1999). The students with poor SOC experience more anxiety than those who score higher on SOC (Carmel & Bernstein 1990).

Furthermore, adolescents scoring higher on SOC can handle school-related stress better than pupils with lower SOC. A negative correlation has been found between SOC, anxiety, and subjective health complaints among pupils—the higher the SOC, the lower the anxiety, and the fewer the health complaints (Torsheim et al. 2001). This has been confirmed in other studies (Moksnes et al. 2011).

Nielsen and Hansson (2007) found that girls with low SOC who were exposed to stress report recent illnesses twice as often as unstressed girls. No such a difference has been found for girls with high SOC. For boys, there is no such significant interaction.

The other findings support the hypothesis that the stronger is SOC in adolescents, the lower is the A-trait (chronic disposition to react with anxiety) during the so-called normal-stress situations (end of the school year, examinations) as well as in high-stress situations (evacuation). The scholars discovered a negative relationship between SOC and A-state (temporary behaviour as a response to certain events) during a period of low stress but no connection to a high-stress situation (Antonovsky & Sagy 1986).

Moreover, employees with strong SOC encounter fewer stress symptoms than those with poor SOC. In addition, some evidence for the moderating effect of SOC has been found, implying that high-SOC individuals cope more capably with work-related stress than those scoring lower on SOC (Albertsen et al. 2001).

The other findings indicated that employees (health social workers) with a stronger SOC report burn-out less frequently than those with a lower SOC (Gilbar 1998). Similar outcomes were found for a group of nurses, in which low SOC was also a major element of burn-out (Lewis et al. 1994), as well as for a group of technical designers, in which strong SOC ensured lower levels of psychosomatic symptoms and emotional exhaustion (Feldt 1997).

Further, the relationship between SOC, coping responses, and overload among caregivers was researched. The outcomes confirmed that SOC may provide protection from overburden. The assumption that caregivers with strong SOC are more likely to select realistic coping strategies and avoid maladaptive behaviour was confirmed (Gallagher et al. 1994). Subjects with high SOC are more likely to adopt active, problem-focused coping strategies and look

for a positive interpretation of the situation. They are also less likely to give up and withdraw from the situation (Pallant & Lae 2002). Individuals with poor SOC seem to be more vulnerable to stressful experiences than those who have strong SOC (Gana 2001).

According to Pallant and Lae (2002), individuals with strong SOC score lower than those with poor SOC on the perceived stress scale (PSS-10, Cohen).

Smith et al. (1997) carried out a research among a sample of psychology students (N = 336). The outcomes revealed that students with strong SOC perceive less stress than their counterparts situated at the opposite pole.

Finally, Yam and Shiu (2003) discovered a negative correlation between SOC and the perceived stress scale (PSS-14, Cohen).

2.4.3 SOC and some predictors of well-being

Studies by Pallant and Lae (2002) revealed that high SOC scores go with life satisfaction and positive effect and are inversely related to negative effects. This has been confirmed in another study (Johnson 2004). Strong SOC seems to be connected to optimism and mastery in general (Pallant & Lae 2002, Johnson 2004, Zirke et al. 2007, Surtees et al. 2003) and among young people in particular (Adams et al. 2000, Bigler et al. 2001, Ebert et al. 2002, Smith & Meyers, 1997). Students with high SOC value show strong locus of control (Smith & Meyers 1997, Flannery et al. 1994, Amirkhan & Greaves 2003).

Furthermore, the higher the level of SOC, the better is the self-motivation inventory, i.e. the ability to reach goals that are dreamed of by oneself, not by somebody else (Björvell et al. 1994). There is also a positive correlation between self-transcendence—a need to go beyond our current limitations—and the level of SOC (Coward 1996). Lastly, strong SOC means high subjective well-being (Elovainio & Kivimäki 2000).

In general, SOC is positively connected to self-esteem among adults (Pallant & Lae 2002, Cederblad et al. 2003) and young people (Bigler et al. 2001).

Investigations regarding SOC and self-efficacy are also crucial for the current research. According to their outcomes, students with strong SOC enjoy better self-efficacy (Amirkhan & Greaves 2003, Smith & Meyers 1997).

2.4.4 SOC and GRRs

Antonovsky's theoretical assumption concerning the meaning of GRRs for SOC is a starting point for many research works. Scholars concentrate mainly on two categories—socio-economic conditions and social/interpersonal life.

The first group encompasses factors such as gender, age, social class, occupation, income, and living conditions. The second group includes childhood conditions, family life, and friendships. Antonovsky listed one more category of GRRs—macro-sociocultural conditions—to which community, religion, magic, and culture (also country) were added. However, this group of factors is overlooked in the empirical research.

- **Gender**

From the gender perspective, the results are heterogeneous with regard to SOC. In contrast to Antonovsky's assumption, some of the studies revealed gender differences[9]. There is empirical evidence showing that women have lower SOC than men (Anson et al. 1993a, 1993b, Larsson & Kallenberg 1996). On the other hand, Volanen et al. (2004) found that single men scored lower on SOC than single women. According to Margalit and Eysenck (1990), girls have higher SOC than boys. However, no gender differences were discovered by many other examinations (Callahan & Pincus 1995, Pasikowski et al. 1994, Hood et al. 1996, Rimann & Udris 1998, Zirke et al. 2007, Schumacher et al. 2000).

- **Age**

According to Antonovsky, SOC should be more or less stable in early adolescence; full stability should be attained around the age of 30 (Antonovsky 1987, Antonovsky A., Sagy & Adler 1990, Antonovsky H. & Sagy 1986). However, some empirical evidence indicates that the strength of SOC increases with age (Callahan & Pincus 1995; Larsson & Kallenberg 1996; Rimann & Udris 1998; Sack et al. 1997). More long-term studies are needed in this field.

- **Social class, living conditions, education, occupation**

According to Lundberg and Peck (1994), poor living conditions and lower social class are related to low SOC. Consequently, people in such conditions suffer distress and more health problems. The relation between high economic status, strong SOC, and good health has been confirmed in another research (Suominen et al. 1999). Larsson and Kallenberg (1996) revealed that self-employed individuals, white-collar employees, and people with higher incomes have higher SOC values than blue-collar workers and people with low incomes. These findings have been confirmed by other investigations (Lundberg 1997, Rimann &

9 Antonovsky (1979) initially considered the concept of SOC as '"universally meaningful'" from a gender perspective. However, he later (1987, p. 108–-109) agreed that SOC probably was became gender-differentiated with age (socialization).

Udris 1998). It has been found in a study carried out among elderly people that favourable living arrangements (living with a spouse or partner), a high education, and higher job responsibility are associated with strong SOC (Ciairano et al. 2008). Unemployment or early retirement is strongly associated with poor SOC. Moreover, those in poor jobs score lower on SOC than unemployed people. For men, a lack of scope to use their skills at work correlates with weak SOC; this does not apply to women (Volanen et al. 2004).

Another study did not find a connection between SOC and education level (Larsson & Kallenberg 1994).

- **Childhood condition, family life, friendships**

Sagy and Antonovsky H. (2000) explored the role of childhood living conditions for the strength of SOC in adulthood. They investigated whether characteristics of the family structure (parental economic status and educational level) and early life experiences during childhood (consistency, load balance, participation in shaping outcomes, and emotional closeness) are related to the development of SOC. According to their outcomes, the most crucial childhood experiences associated with adult SOC are participation in shaping outcomes and load balance. Kalimo and Vuori (1991) proved that a good quality of home care during youth is associated with strong SOC in adulthood.

Additionally, Feldt et al. (2005) showed that child-centred parenting in adolescence and a stable career line in adulthood are directly associated with strong SOC in later life. Child-centred parenting, high parental socio-economic status, and success in school at the age of 14 indirectly correspond with SOC in adulthood via education and career stability.

According to Lundberg (1997), only family discord in childhood has a direct effect on SOC level in adulthood. Furthermore, traumatic life events in childhood are highly influential in terms of the development of SOC in adulthood. Individuals who experienced childhood stressors such as parental divorce, family stress, physical abuse, and parental alcohol or drug abuse are most likely to have weak SOC as adults. This overlaps with another research by Wolff and Ratner (1999).

There is another study that focuses on the factors associated with SOC among adolescence (Marsh et al. 2007). The scholars report a positive relationship of social support and neighbourhood cohesion with SOC.

- **Country**

Some studies compare the values of SOC between different ethnic groups. In the study by Bowman (1996), a sample of Anglo-Americans and a sample of Native-Americans demonstrate similar SOC levels, despite great differences in the socio-economic conditions among the two groups. Hood et al. (1996) also could not establish any differences between Canadians of European origin and immigrants from Asia. A research by Gibson (2003) did not reveal any significant dissimilarities in SOC among the African-Americans and European-Americans. However, in the study by Braun-Lewenshon and Sagy (2011), a comparison between a sample of Jewish adolescents and a sample of Arab adolescents presented differences in SOC.

- **Religion**

A small number of empirical works have investigated SOC in the context of religion. Tagay et al. (2006) aimed to assess the influences of religiosity and SOC on mental health and well-being. They did not find any significant association between the two variables. However, other studies, by Gibson (2003) and Delgado (2007), revealed a crucial positive relationship between SOC and spirituality.

Additionally, Pargament (1999) found a moderate positive correlation between SOC and positive religious coping, and a moderate inverse correlation between SOC and negative religious coping. The same was confirmed in later studies (Rohani et al. 2010).

It is important to stress that all three studies were carried out on clinical samples. Tagay et al. (2006) examined psychosomatic outpatients who were consecutively in ambulant treatment at the Clinic of Psychosomatic Medicine and Psychotherapy. Gibson (2003) concentrated on breast cancer survivors (mostly older than 50), and Delgado focused on people with a chronic illness (mostly older than 60).

Moreover, only Gibson (2003) and Delgado (2007) used certain scales to measure spirituality in their statistical analyses—the spiritual perspective scale (SPS) and the spiritual transcendence scale (STS)[10]. Tagay (2006) asked two questions in order to measure religiosity:‘“To what extent are you religious?”’ (subjective religiosity) and ‘“How important is your religion for your life?”’ (importance of religion in one’s life).

Definitely a more comprehensive study on this subject was carried out by Zarzycka and Rydz

10 SPS measures the extent to which spirituality impacts one’s life (spiritual perspective). ST measures the ability of a person to stand outside of her /his subjective sense of self and experience life from a larger, more objective perspective (transcendent perspective). The scale includes questions about meditation and prayer. Neither of the scales do not concern any specific religious practice and or any certain specific religious affiliation.

(2014). They attempted to investigate interactions between five religious dimensions of religion and SOC in a sample of young, middle-aged, and older elderly adults from Poland. The scholars focused on the following aspects of religion: intellect (the frequency of thinking about religious issues), ideology (beliefs), private practice, religious experience (religious perception, feelings), and public practice (attending public religious service). A positive relation between religiosity and SOC was found in a the group of middle-aged men and in the female young female and late elderly female groups.

In conclusion, the current systematic review suggests that SOC has a salutary impact on physical health and the subjective sense of health. People with a low SOC appear to be more stressed and depressive. A strong SOC seems to promote some predictors of well-being, such as life satisfaction, optimism, the locus of control, self-transcendence, self-esteem, and self-efficacy.

Empirical evidence shows that weak socio-economic conditions, lack of social support, and a poor family climate predict a low SOC. At the same time, a better quality of work and family life reinforces its level.

Further, SOC tends to be similar among different ethnic groups. However, this aspect has not received sufficient attention in the literature. Therefore, it is important to provide more information on about the levels of SOC across nations.

A small body of empirical works concerning SOC and religion reveal more positive trends. Nevertheless, the evidence considers mostly a clinical sample and elderly people. As far as my knowledge goes, there is only one research that involves young adults (Zarzycka & Rydz 2014). It is important to learn more about this subject.

Moreover, none of the mentioned scholars have posed the any question concerning a SOC level across different religious affiliations. Thus, there is a need to fill the gap in this neglected line of research.

We can now move on to a review of the research concerning religion and health.

2.5 Religion and health

There is an increasing number of works on the connection between religion and health. These works, for instance, attempt to determine the degree to which religion helps in coping with mental illness (Gartner et al., et al. 1991) or physical illness (Cigrang et al., et al. 2003, Finkelstein et al., et al. 2007).

An impressive number of studies concern the role of religion in reducing risk behaviours such as drug abuse, alcohol abuse, and unprotected sex, especially among young people (Piko

&and Fitzpatrick 2004, Chawla et al. 2007, Johnson et al. 2008).

Another group of empirical evidences investigates the relation between religion and the ability to copeing with different levels of stress: chronic stress like depression and, anxiety (Belavich 1995, Lee 2007, Desrosiers & Miller 2007), unexpected events (Anson et al. 1990, Park et al. 1993), and daily hassles (Park et al. 1990, Plante et al. 2001).

Some scholars concentrate on the meaning of religion for such predictors of well-being like life satisfaction or self-esteem (Krause 2009).

In many of the studies, religion seems to convey better health. To find an explanation for this phenomenon, researchers turn to the investigation of some mechanisms, through which religion may influence health. In this diverse and growing group of examinations, four types of research can be classified (Nelson 2010).

The first group focuses on the buffering model, where spirituality is predicted to be more helpful in high-stress situations, and active participants suffer less under the stress impact (Bjorck & Thurman 2007).

The second group of research is based on the assumption that religion plays a mediating or distress-deterrent role in coping with stress. Here spirituality affects health indirectly through in-between variables. For instance, contact with like-minded people in religious communities provides better social support. This support may improve coping response, thereby deterring distress and having a salutary positive influence on health. Here, religious practice remains constant across all levels of stress (Krause &and Tran 1989, Anson et al. 1990, Tix & Frazier 2005, Koenig & Futterman 1995, Belavich 1995).

The third group of empirical investigation tests the moderating role of religiosity. Here, religion has a greater influence when stress is higher, although stress does not change the frequency of the practice (Idler 1987, Park et al. 1990, Tix & Frazier 2005, Lee 2007).

The last group investigates different types of religious coping (self-directing, collaborative, deferring) and their effectiveness in dealing with stress (Pargament et al. 1990, Park & Cohen 1993).

Religiousness is a very complex phenomenon. Scholars concentrate on different sides of this labyrinth. They investigate such dimensions of religion as intrinsic and extrinsic religiousness, which deals with maturity of a religious view and is based on the supposition that some people hold more mature religious beliefs than others (Park et al. 1990, Park & Cohen 1993) —attendance, private practice; importance and strength of religiousness (Wallace & Forman 1998), and church-based social support (Krause 2001). Some of the scholars carried out comparisons between different religious affiliations in the context of a coping process

(Kolchakian & Sears 1999, Park & Cohen 1990, Tix & Frazier 1998).

The last group investigates different type of religious coping (self-directing, collaborative, deferring) and their effectiveness in dealing with stress (Pargament et al.1990; Park & Cohen 1993).

The following chapters will review the role of religion in high-risk behaviour, coping with stress and prediction of well-being.

2.5.1 Religion and high-risk behaviour

High-risk behaviour involves many different habits. However, the most important and studied is alcohol and drug abuse. According to numerous works, religiousness plays a role in the downturn of alcohol consumption (Ellison & Anderson 2001, Piko & Fitzpatrick 2004, Johnson et al. 2008). Religious adolescents (Protestants and Catholics) are more likely to abstain from drinking than non-religious adolescents. In addition, differences between religious denominations have been noticed (Burkett 1980). It has been confirmed in other studies that the level of religiosity has a crucial association with alcohol and drug use (Burkett & Warren 1987, Wallace et al. 2003) and that magnitude of the relation varies according to denominations too (Schlegel & Sanborn 1979, Amoateng & Bahr 1986, Patock- Peckham et al. 1998).

Besides, religion may act as a buffer against the consumption of psychoactive substances. There is a strong positive correlation between gaining daily problems and an increase in the consumption of drugs. The variable “religion” significantly weakens the correlation and thus plays the role of a buffer (Wills et al. 2003).

Additionally, conservative adolescent churchgoers, were found to be less likely to drink than those who were more liberal adolescents. Both groups, however, consumed less alcohol than students who did not attend the church (Schlegel & Sanborn 1979, Lorch & Hughes 1985). A liberal view correlates with a low level of religiousness and high alcohol use. Pupils who claimed that religion is very important in their life are less likely to have used alcohol (Dunn 2005).

Further, it has been found that there are dissimilarities not only among religious denominations in terms of alcohol and drug use, but also between public and private religiosity. Private religiosity (frequency of attendance at religious services) is more protective against experimental substance use, while public religiosity (frequency of participation in religious youth group activities) has a bigger association with regular substance use, in particular, with regular cigarette use (Nonnemaker et al. 2003). A personal

attitude towards religion has a more crucial impact on decreasing alcohol and drug consumption in young people (Galen & Rogers 2004, Chawla et al. 2007).

The studies suggest that truly religious young people consume less alcohol, medicine and drug (smoke marijuana) than those who have a pious attitude towards religion. Being religious just for show will not bring such a positive impact on health behaviour as a real commitment (Miller et al. 2000). Moreover, church attendance was seen as a less important influence (Lorch & Hughes 1985).

By reference to scholars, there are some mediators that may explain why religious commitment is inversely connected to alcohol and drug use. Various religions have one thing in common—they forbid drinking. A personal attitude towards norms helps people to believe in discipline and keep them away from risk behaviour. Support from parents and/or friends who are often part of the same religious community, a sense of togetherness, and a relation of trust with them buffer stress (Burkett & Warren, 1987, Kendler et al. 1997, Stewart & Bolland, 2002, Wills et al. 2003, Chawla 2007).

2.5.2 Religion and coping with stress

In many studies, scholars stress the phenomena of spirituality which works as a coping strategy on the one hand and as an occasion for gathering like-minded into a network on the other. This chapter introduces research about the meaning of religious coping and church based social support in stress management on three different levels: chronic stress (anxiety and depression), unexpected events and daily hassles.

Pargament (1997) extended our knowledge about the coping theory by maintaining that religion may participate in the coping process in a number of ways. He and his colleagues suggest a two-factor model of religious coping in response to stress—positive and negative religious coping. They claim that positive coping is connected with fewer symptoms of psychological distress, while negative religious coping shows higher levels of depression (Pargament et al. 1998). Three religious coping styles were proposed: self-directing (the person attempts to solve its problems on its own, without the help of God), collaborative (the person's cooperation with God in a problem-solving process) and deferring (the person relies passively on God by not taking any step to solve a problem) (Pargament et al. 1998).

Kolchakian and Sears (1999) checked three religious coping styles on a sample of college students (Catholic, Protestant, Jewish and Baptist). By reference to them no significant correlations were found between religious coping and religious orientation and trait anxiety and depression.

However, other scholars presented conflicting results. For instance, Bickel et al. (1998) tested different styles of religious coping in high-stress conditions. Would the coping either increase or decrease the depressive impact? The outcome showed that the more adults used the self-directing style of religious coping, the more they experienced depressive effects; the more they used the collaborative religious style, the less their depression. Negative religious coping reduced well-being, increased anxiety and depressive symptoms (Winter et al. 2009).

Additionally, by reference to Pargament (1998) religious coping styles, including the belief in a just and loving God, the experience of God as a supportive partner, involvement in religious rituals, and the search for spiritual and personal support, were significantly related to better outcomes, such as stable mental health and spiritual growth.

Park and Cohen (1993) interviewed religious (Protestants and Catholics) and non-religious undergraduates about their coping with the recent death of a close friend. They put forward a statement that intrinsic religiousness (supreme values that give one's life meaning and motivation) plays a more important role in coping than extrinsic religiousness (outer behaviour for social comfort).

According to the results, intrinsic religiousness is associated with *Religious Spiritual Support Coping* (coping activities that stress the individual's personal loving relationship with God) and with attributions that God was purposefully involved in the death of a friend. Both of these coping strategies helped people to adapt better to the event, something that has been confirmed in other studies (Maton 1989, Belavich 1995). Furthermore, Park and Cohen did not find crucial differences in the coping process between Protestants and Catholics.

Moreover, attribution to a purposeful God corresponds with lower distress. This finding overlaps with past research that has shown that spirituality is positively connected with perceptions of the just world (Spilka et al. 1985), and that religious attributions are integrated into the attempt to maintain meaningful views of the world (Pargament & Hahn 1986).

Additionally, it has been shown that intrinsic religiousness is a positive predictor of personal growth by being connected to attributions to a loving God and *Positive Reinterpretation Coping*. Similar results were found by Hall (1986), who found that personal growth came from reaching a greater meaning in life and greater understanding of life crisis.

Bjorck and Thurman (2007) showed that people generally tend to use more positive than negative religious coping in stress situations. They found a relation between increased negative events and an increase in both positive and negative religious coping. What is, however, more important is that positive religious coping buffers the effects of negative events on psychological functioning (satisfaction with life, depressive symptoms). This

assumption was supported especially regarding depression. Depression arose less in response to negative events among the individuals who reported high positive religious coping than for the low positive religious coping subjects.

Previous research on other samples presented more or less the same outcomes. For instance, Johnson and Larson and co-scholars (1998) reported that the more religiously committed people experienced a lower amount of stress than those who are less committed. Moreover, the same level of stress in both groups was more effectively borne by people engaged more strongly. Williams and colleagues (1991) also found that religious coping buffered the negative impact of stress on psychological well-being.

Lee (2007) examined students in order to check the moderating effect of religious coping in perceiving stress as well as its impact on psychological well-being. It has been proved that a negative effect of perceived stress on depression is reduced when religious coping is high. He concluded that high levels of religiosity are associated with low levels of psychological distress symptoms.

Further, Belavich (1995) demonstrated the importance of religious coping for students in dealing with daily hassles, for instance a bad grade in an exam.

According to the outcomes, *Pleading* (asking for a miracle, questing God why the event occurred) was related to the higher level of depression and negative impact and lower level of positive effect. The findings were confirmed with other studies (Pargament et al. 1990; Park & Cohen 1993).

Religious Avoidance (the person diverts attention away from the problem) was related to a lower level of depression and negative impact, while *Non-religious Avoidance* presented opposite results. Previous research has found similar results (Pargament et al. 1990).

Moreover, the study supported the distress-deterrent role of religiosity in coping. Stress increased religious involvement and this intense engagement had a positive impact on adjustment to the stressful situation (Belavich 1995, Wheaton 1985).

However, the investigation from Plante and colleagues (2001) shows opposite outcomes. The study focused on faith and coping strategy with stress on daily situations. By reference to the results, religiosity is not correlated with coping with daily stress and hassles. Authors claim that perhaps religion is more likely used to cope with traumatic experiences like HIV/AIDS (Jenkins 1995), cardiovascular diseases (Goldbourt et. al. 1993), or cancer (Halstead & Fernsler 1994) than with daily stress.

Schnittker (2001) examined the correlation between religious involvement and stress. The results suggest a U-shaped effect: Those with low levels of religious involvement and those

with high levels of the involvement report more depression than those with values in between. Additionally, only when the person experiences multiple life events, religion acts as a stress-buffer.

Other studies introduced an inverse U-shaped effect (Eliassen et al. 2005; Ross 1990)—higher levels of depression among the moderately religious than among either very religious or non-religious respondents.

Loyd and co-scholars (1993) examined adolescents. It was predicted that those who attended church frequently and those who viewed their religion as providing meaning for their lives would have lower depression scores than their classmates.

Religiously founded coping seems to be an important source in the process of dealing with difficulties, but social support in a religious setting takes a part in it as well.

Krause and colleagues (2001) presented three types of church-based social support: emotional support from church members, spiritual support from church members and emotional support from pastors. All of them correlated with each other. Spiritual support plays an important role in shaping the use of religious coping responses. Emotional support from clergy has much weaker meaning for religious coping, and emotional support from church members has no impact at all

Some studies show a salutary character of religious commitment on well-being in stress situations. Membership of a religious community reduces psychological distress and also limits symptoms of recent life events (RLE). RLE is proved to have a bad impact on well-being. Additionally, it has been found that RLE has adverse consequences mainly among the members of the non-religious community. Furthermore, individual religiosity (praying) has not such a strong stress-deterrent effect as belongings to a spiritual community (Anson et al., 1990).

Levin and colleagues (1996) proved that religious attendance reduces depression in a prospective study of Mexican Americans from three generations. The studies of Ellison showed that African-Americans who attend religious services more than once a week as well as those who report receiving a great deal of guidance from religion in their daily lives show reduction of psychological distress and risk of major depressive disorders over the course of a three-year study (Ellison 1997).

Other findings show that the availability of particular religious coping resources, specifically spiritual support and community service opportunities, have a moderating effect on the relationship between depression and low levels of stress (Carleton et al. 2008).

Further, church-based support is associated with better self-reported health over time (Krause

et al. 2002).

2.5.3 Religion and some predictors of well-being

In this part of the thesis, I take a closer look at a meaning of religion for some predictors of well-being: self-esteem, life-satisfaction and self-efficacy.

Laurencelle and co-scholars (2002) focused on the relation between intrinsic religious faith and psychological well-being among adults. The outcomes indicated that highly faith participants pretended more positive feeling of self-worth.

Reed (1986) compared terminally ill with healthy adults for differences in religiousness. She also explored well-being. She used the Religious Perspective Scale (RPS) which measures the extent to which people hold their religious beliefs and engage in religious orientated interaction with others and with God. According to the data, a positive relation between religiousness and well-being was confirmed in the healthy sample.

Ellison (1993) found that frequent church attendances and frequent private religious practices are connected with better self-esteem among African-Americans. The results suggested that public religious participation buffered the negative impact of physical unattractiveness on self-esteem, and private religious practice buffered the negative influence of chronic illness on self-esteem.

The topic of self-esteem in connection with religion was also taken up by Krause (2003, 2009). By reference to the findings, older adults with little religious commitment showed lower self-esteem than those with moderate level of religious involvement (Krause 2003). In his later study, he checked if church-based social relationships are associated with a change in self-esteem and whether emotional support from fellow church members is more strongly associated with self-esteem than emotional support from secular social network members. The data indicates that having a close personal relationship with God is associated with greater self-esteem. Receiving support from fellow church members was not related to self-esteem. However, emotional support from secular network members corresponded with self-esteem (Krause 2009). Besides, Sherkat and Reed (1992) examined the impact of religion and social support on self-esteem. The findings revealed that religious participation significantly increases self-esteem.

Levin and Markides (1988) examined the role of church attendance on life satisfaction among middle-aged and older Mexican Americans. The data suggested a positive correlation between these two variables. In addition, a positive correlation between church attendance and life satisfaction has been confirmed in many cross-sectional studies. Almost all of these show a

positive correlation between frequent presence in church and a sense of meaning in life (Hadaway & Roof 1978, Ellison 1991, Ringdal 1996).

Let us now take a closer look at research dealing with self-efficacy.

Albani and colleagues (2004) investigated the meaning of religious attitude and perceived social support of religious communities with regard to self-efficacy among elderly. A positive correlation between these two variables and self-efficacy has been found.

Adegbola (2007) has confirmed a positive correlation between spirituality (self-expressed belief) and self-efficacy among individuals with sickle-cell disease.

2.5.4 Meaning of denomination for coping with stress and self-efficacy

Some studies have investigated the differences between various religious denominations in terms of the coping process. The results are heterogeneous. Kolchakian and Sears (1999; Catholic, Protestant, Jewish and Baptist), and Park and Cohen (1990; Protestants and Catholics) did not find any crucial differences in coping with stress between varied religious affiliations. However, Tix and Frazier (1998) asserted that religious coping is more effective in promoting adjustment for Protestants than for Catholics. No research about the meaning of denomination for self-efficacy has been found.

2.6 Perceived stress and self-efficacy among different nations

According to Antonovsky (1979), culture is not only a source of stress, but also a crucial source of GRRs. There are dissimilarities in perceiving and coping with stress across cultures. However, in a large number of researches into stress, there is only a small group that was carried out across the countries. Nonetheless, they did not focus on comparing different nations in the context of the stress perception. They just concentrated on a specific groups of people who faced a certain type of stress.

Daniels (2004) examined workers and self-employed persons (N=11054) in 15 European countries in the context of occupational stress. With reference to the outcomes, there were significant differences between countries in terms of the index of perceived risk from occupational stress. The results indicated that the controlling factors (demographics, perceived job conditions and job dissatisfaction) do not explain all of the variations between countries in perceived risk of occupational stress. Working people in Austria, Ireland and Great Britain were the least likely to believe work causes stress symptoms. People in Greece, Italy and France think otherwise. In other words, sociocultural factors have meaning in perceiving stress.

An OECD study (2011) investigated positive and negative experiences among people from different nations. The results presented important dissimilarities in perceiving stress (negative experience) between varied nations.

Braun-Lewensohn and Sagy (2011) found a meaningful difference in the reported state of anger between Arab Bedouin adolescents and Jewish adolescents.

General self-efficacy is a universal construct (Bandura, 1977). Thus, it might be assumed that the self-efficacy value remains similar across cultures. Nonetheless, this supposition has not been tested intensively. A small number of studies compare self-efficacy across countries that differ in terms of social, economical and cultural backgrounds.

Luszczynska and Gutierrez-Dona (2005) explored the relation between self-efficacy (GSE, Bandura) and other psychological constructs across different countries (N=8796, Costa Rica, Germany, Poland, Turkey and the USA). According to the results, there were no significant differences in the self-efficacy level among countries.

However, Scholz and others (2002) discovered dissimilarities in self-efficacy among varied nations. They tested 19120 participants from 25 countries. According to the findings, Costa Ricans presented the highest GSE level while Japanese showed the lowest.

Similar outcomes were revealed by Caprara and co-scholars (2008), who examined three countries (Italy, USA, and Bolivia) in the context of Regulatory Emotional Self-Efficacy (RESE). Cultural differences and different social norms may have a meaning for self-efficacy.

In brief, the studies demonstrate that religion reduces high-risk behaviour by promoting a healthier lifestyle. The consequential component of health behaviour is functional health. People engaged in religious activities suffer less from heart diseases, cancer, stroke, disability and live longer.

One of the generic religious values is the “purity of life”. It lowers the possibility of a number of illnesses. Empirical results reveal an inverse relation between spirituality and risk factors like physical inactivity, obesity, higher blood pressure, drug and alcohol abuse, depressive disorders, psychological stress and lack of social support.

When it comes to religious coping, it has been shown that it is a multidimensional phenomenon and its role in high-stress as well as low-stress situations may result in diverse outcomes. Nevertheless, the so-called intrinsic religiousness seems to be evidently significant for coping processes. Supreme religious values, which are the underlying reason for motivation and meaning in life, take a more active role in problem-solving processes than extrinsic religiousness based more on public behaviour than on principles.

Additionally, the style of religious coping is not without meaning. A collaborative style based

on cooperation with God seems to help religious people in high-stress situations, while self-directing model of managing gives poorer results. Religious coping, connected with a belief in a just and loving God, helps individuals to create positive reinterpretation of the event and thus better adapt to a crisis.

In a broad spectrum of managing stress, social network helps to relieve daily tension and, in traumatic events, can provide spiritual guidance. Studies have proved that religion reduces depressive symptoms and anxiety.

Moreover, researches validating the meaning of religion for self-esteem, life-satisfaction and self-efficacy present a positive connection between multidimensional aspects of religion and the predictors of well-being.

According to the social-psychological literature, there are three theories that explain how religion may ameliorate mental health in times of frustrations (King & Schafer 1992). In agreement with the attribution theory, religion gives framework for understanding stressful situations which can lower their negative influence (Spilka 1985). A part of the attribution theory is religious coping.

According to social support theory, larger networks or/and better contact with networks limit the negative impact of stress (Cobb 1976, Kobasa et al. 1985, Campbell 1981, Sarason et al. 1986, Wallston et al. 1983). Though religious social support has not been clearly established in studies, its potential as a stress-buffer factor has been recognized (Pargament 1982, Levin & Vanderpool 1987). Belonging to a social network is so crucial for human optimal development that Maslow (1968) rated love and belongings among his well-known hierarchy of needs. Religious congregations provide an institutional basis that organizes, promotes and brings together like-minded people (Cornwall 1987, McIntosh & Alston 1982). On the one hand, individuals in religious groups give assistance to each other in many secular ways through exchange of emotional support (Krause et al. 1998; Taylor & Chatters 1988; Idler & Kasl 1997 a, b; Bradley 1995). On the other hand, they help each other in a religious way by offering spiritual support. They receive support from a priest, a pastor or a spiritual teacher. With reference to the scholars, we can point out the following: emotional support from members, spiritual support from members and emotional support from a spiritual guide (Krause et al. 2001).

Eventually, according to the concept of social learning and its locus of control spirituality supplies a sense of meaning and purpose in life which can help an individual to experience more control also in crisis (Bandura 1977, Hood 1974).

It has been proved that religion influences the behavioural level by regulating a lifestyle and

providing social support, and that it has an effect on the cognitive level by providing coping methods and on the motivational level by offering goals as well as essential framework for interpreting life.

Therefore, religion may correspond to Antonovsky's SOC which defined it as a global orientation based on confidence that internal and external factors are structured, predictable and explicable, and that the resources are available to cope with demands which are worth investment and engagement (Antonovsky 1979). It integrates essential parts of the cognitive (comprehensibility), behavioural (manageability) and motivational (meaningfulness) components.

According to some scholars, there is one strong hypothesis which may explain a beneficial impact of religion on health. It is the so-called coherence hypothesis whereby religion provides sense of coherence and meaning so that people understand their role in the universe and can thus develop their courage to cope with crisis (George, et al. 2000). Nonetheless, this line of supposition seems to be ignored in research. The present study attempts to fill this research gap.

Additionally, research regarding the meaning of religion in decreasing stress among students usually concentrates on religious coping with psychological distress or daily hassles (Lee 2007, Belavich 1995). Loyd and co-scholars (1993), who also considered other aspects of religiousness (such as church attendance and the meaning of religion in life), measured them in the context of depression. There is an obvious dearth of research into the role of varied components of religiousness for perceiving stress in daily life in a group of young people. Therefore, the present study focuses on this research problem.

Furthermore, in the above-mentioned studies self-efficacy was exterminated in a sample of elderly people (Albania et al. 2004) and in a group of individuals with a blood disorder (Adegbola 2007). Young people are noticeably absent from these studies.

Empirical evidence concerning the role of denomination in coping with stress and self-efficacy is scarce. Thus, these research gaps should also be filled by the present study.

Lastly, lack of empirical evidence concerning cross-cultural differences in the perception of stress and heterogeneous results from only a few self-efficacy examinations among varied countries give rise to the need for such research. Therefore, the next goal of this study is to explore whether different nations differ in terms of coping with stress.

The next step involving the theory and research background is to introduce the empirical part of the thesis and the hypotheses, methods and results.

3. Empirical part

3.1 Research problems

After reviewing the literature, the following research problems have been crystallized.

- **Religion and SOC**

Empirical evidence focused mostly on a clinical sample and older adults. With the exception of one research (Tagay et al. 2006) most of them presented positive results (Gibson 2003, Delgado 2007). Moreover, only one study aimed at examining the various dimensions of religion and their influence on SOC among different age groups including young adults (Zarzycka & Rydz 2014).

Thus, the first goal of this study was to examine how different aspects of religion, such as the strength of religious faith, church attendance, and private religious activity affected SOC among students.

Therefore, the following assumptions were formulated:

1. More devout students will score higher on SOC than students with a weaker religious engagement.
2. Students who go to church or frequently attend other religious meetings will score higher on SOC than those doing so less often.
3. Students who pray, meditate or study the Bible frequently will score higher on SOC than those doing so less often.

- **Religion and stress**

Religion plays a role in reducing stress (Larson 1998, Lee 2007, Park & Cohen 1993). However, investigations on students focused mainly on psychological stress, daily problems, and depression (Lee 2007, Belavich 1995, Loyd et. al 1992). Exploration of the influence of various dimensions of religion on perceived general stress among students appears to have been neglected.

Thus, the second aim of this study was to assess the extent to which the strength of religious faith, church attendance, and private religious activity corresponded with the perceived stress scale among students. Therefore, the following suppositions had been examined:

4. More devout students will score lower on the perceived stress scale than students with a weaker religious engagement.
5. Students who go to church or frequently take part in other religious meetings will score lower on the perceived stress scale than those who do so less often.
6. Students who pray, meditate or study the Bible frequently will score lower on the perceived stress scale than those doing so less often.

- **Religion and self-efficacy**

There is a lack of empirical evidence concerning young people in the context of self-efficacy and religion (Albania et al. 2004, Adegbola 2007). The assumptions below have been formulated for a more comprehensive knowledge of the connection between the various aspects of religion and self-efficacy among students.

7. More devout students will score higher in terms of self-efficacy than students with a weaker religious engagement.
8. Students who go to church or attend other religious meetings frequently will score higher in terms of self-efficacy than those who do so less often.
9. Students who pray, meditate or study the Bible frequently will score higher in terms of self-efficacy than those doing so less often.

- **Denomination and SOC**

The small body of research on SOC and religion did not make any distinction between different religious affiliations. SOC is a cross-cultural construct and should not reveal any important fluctuations across different cultures, within different religious affiliation. However, the studies about SOC and religion presented ambiguous results (Tagay et al. 2006, Gibson 2003, Delgado 2007, Zarzycka & Rydz 2014). Therefore, I assumed that

10. Important dissimilarities may appear in SOC across different religious denominations.

- **Denomination and stress**

The effects of various religious denominations on a coping process are yet to get enough attention as a research topic. Moreover, the results are heterogeneous. (Kolchakian & Sears, 1999, Park & Cohen 1990, Tix et al. 1998). In the light of previous empirical works and their

heterogeneous outcomes, I suppose that

10. Crucial differences may appear on the perceived stress scale across religious denominations.

- **Denomination and self-efficacy**

As far as my knowledge goes, there are no findings regarding explicit self-efficacy across religious affiliations. Nonetheless, the above-mentioned empirical data on stress have given ambiguous results (Kolchakian & Sears, 1999, Park & Cohen 1990, Tix et al. 1998). Therefore, I suppose that

11. Statistically important dissimilarities may appear in self-efficacy across different religious denominations.

- **Country and SOC**

In the mentioned studies, no dissimilarities in SOC across ethnicities have been established (Bowman 1996, Hood et al. 1996, Gibson 2003). Only one study—Braun-Lewensohn and Sagy (2011), presented an opposite result. The following assumptions have been formulated based on the listed research.

13. There will be no statistically important dissimilarities in SOC among German and Polish students.

- **Country and stress**

In a large number of researches into stress, there is only a small group that was carried out across the countries. Nonetheless, they did not explicitly focus on comparing different nations in the context of the stress perception. They just concentrated on a specific groups of people who faced a certain type of stress. This small group of findings state that there are some differences in a level of occupational stress, experiencing negative emotions and anger across countries (Daniels 2004, OECD study 2011, Braun-Lewensohn & Sagy 2011).
Thus, I assumed that

14. There may be important differences in the stress perception among German and Polish

students.

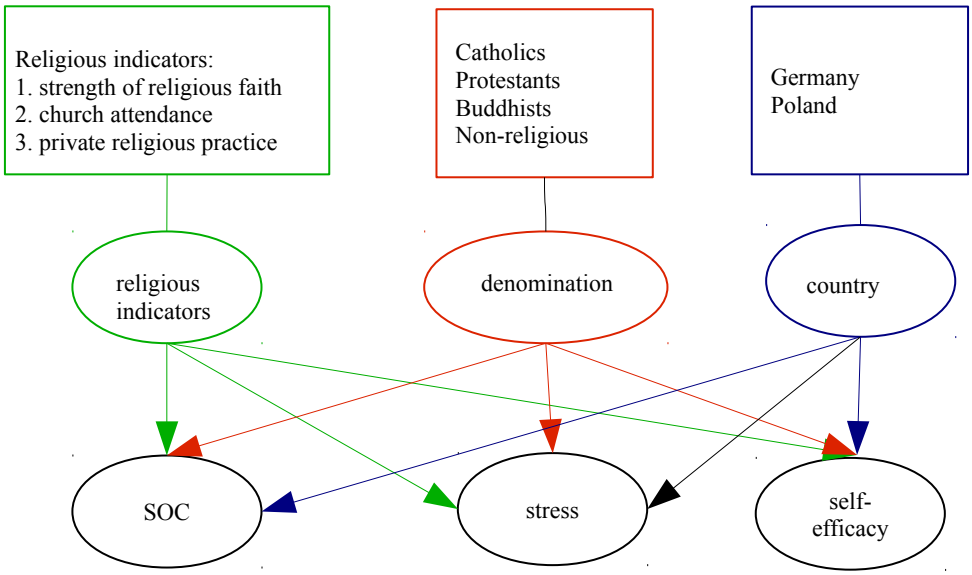
- **Country and self-efficacy**

Not many studies have examined self-efficacy across nations, and those that did reported ambiguous results (Luszczynska & Gutierrez-Dona 2005, Scholz et al. 2002, Caprara et al. 2008). Hence, in the present study, my assumption is that

15. Crucial dissimilarities may appear in self-efficacy among German and Polish students.

Picture II Summary of the research problems

Independent variables (macro-sociocultural GRRs)



Dependent variables (SOC and coping capacities)

- **Effect of interaction between religious indicators and country on SOC**

From the perspective of ethnicity, many works have shown no differences in the level of the salutogenic construct (Bowman 1996, Hood et al. 1996, Gibson 2003). However, there is no certainty that after considering religious indicators—the strength of religious faith, church attendance, and private religious activity—a SOC level would still not differ across countries. Thus, it was important to examine whether the impact of the given religious indicators on SOC would be equal across countries. Hence, the effects of the following possible interactions on the SOC were examined:

1. Interaction between the strength of religious faith and country on SOC.
2. Interaction between church attendance and country on SOC.
3. Interaction between private religious activity and country on SOC.

- **Effects of interaction between country and coping capacities on SOC**

SOC does not differ across cultures, while the stress perception and self-efficacy do (Bowman 1996, Hood et al. 1996, Gibson 2003, Daniels 2004, OECD study 2011, Braun-Lewensohn & Sagy 2011, Scholz et al. 2002, Caprara et al. 2008). Besides, SOC is important for these coping capacities (Pallant & Lae 2002, Smith et al. 1997, Amirkhan & Greaves 2003, Smith & Meyers 1997).

In order to gain a greater understanding about the possible influence of coping capacities on SOC in a cross-cultural context, it was important to examine whether there were any effects oft he interaction between them and country have any effect on SOC:

4. Interaction between the stress perception and country on SOC.
5. Interaction between self-efficacy and country on SOC.

The absence of polish Protestants in the sample led to the removal of the following interaction from this study:

6. Interaction between denomination and country on SOC.

- **Contribution of macro-sociocultural GRRs to SOC**

The degree to which our lives provide us with GRRs determines the strength of our SOC (Antonovsky 1979). In order to better understand the significance of macro-sociocultural GRRs for SOC, it was important to empirically explore how the given independent variables contribute to SOC. Which of the listed GRRs (religion with its three indicators—the strength of religious faith, church attendance, private religious activity, denomination and country) were the most significant for SOC changes in a given model?

Lack of Protestants in Poland led to the removal of denomination from the regression for the whole sample. Two extra separated regressions for the German and Polish samples were carried out to find out how religious affiliations and religious indicators contributed to SOC across the countries.

The following chapter presents the research methodology.

3.2 Methods

To examine the research problems, the following scales have been used.

SOC was assessed on the Orientation to Life Questionnaire (29 Items) designed by Antonovsky (1987). It is a seven-point semantic differential scale with two anchoring answers that measures three components of the concept: comprehensibility (11 items), manageability (10 items), and meaningfulness (8 items). For example: Do you feel that you don't really care about what goes on around you? (1-very seldom or never; 7-very often). All the questions must be scored together. Before adding the responses, items 1, 4, 5, 6, 7, 11, 13, 14, 16, 20, 23, 25, 27 should be reversed. Antonovsky recommended the investigation of the SOC without dividing the sum of the items into low or high. He also never suggested the level of a normal SOC value. However, a number of studies made a distinction among low, moderate, and high SOC (Ben-David & Leichtentritt 1999, Berglund 2003 et al. Bothmer & Fridlund 2003), without following a general pattern of division. Different studies used different divisions.

The SOC-29 has been applied to a sample of students before (McSherry Holm 1994, Bowman 1996, Gibson and Cook 1996, Torsheim et al. 2001, Jorgensen et al. 1999, Amikhan & Greaves 2003). Cronbach alpha ranged in different studies from 0.88 to 0.91 (Antonovsky 1983, 1987, 1993).

In this research, two linguistic versions of the scale have been used—German from Franke (1997) and Polish from Koniarek, Dudek and Makowska (1993).

The strength of religious faith was evaluated based on the Santa Clara Strength of Religious Faith Questionnaire (SCSORF) formulated by Plante and Boccaccini (1997). It is a 10-item scale with four differential answers provided for measuring the strength of religious faith. For example: I see my faith as providing meaning and purpose to my life (1-strongly disagree; 4-strongly agree).

The scores are obtained by adding all the responses. A median-split procedure is used to distinguish between the high and the low faith subjects. The questionnaire was designed in order to enable quick and useful measurement of religious engagement in mental health research. The SCSORF is not identified with any religious affiliation and denomination, so it is suitable for people of all faiths.

In a preliminary investigation, the authors found that subjects who scored high on the SCSORF had also strong self-esteem, were optimistic, coped better with difficulties, and were less depressed (Plante & Boccaccini 1997). Additionally, high scores on the SCSORF are

related to religious behaviour, spirituality, and religious coping (Freiheit et al., 2006). A significant connection between the scale and intrinsic/extrinsic religiousness has been noticed (Plante & Boccaccini 1997).

The reliability of the scale has been checked on a university student sample (Plante & Boccaccini 1997 ά=0.94). Further, other scholars applied SCSORF to student groups (Lewis et al. 2001, Plante et al. 2001, Freiheit et al. 2006, Wnuk 2009).

In the present research, a German translation from Büssing (2002) and a Polish translation from Wnuk (2009) have been used.

In order to value organizational (e.g., church attendance) and non-organizational religious activities (e.g., private religious practice), the Duke University Religion Index (DUREL; Koenig et al. 1997) has been employed. It is a 5-item scale that measures organizational, non-organizational, and intrinsic dimensions of religion. The index is divided into three sub-scales that should be scored separately. Preliminary investigation has shown a high correlation between all the three sub-scales and the Santa Clara Strength of Religious Faith Questionnaire (Koenig et al. 1997).

The overall scale has a high test-retest reliability (intra-class correlation ά= 0.91), high internal consistence (Cronbach's alpha's ά= 0.78–0.91). The scale also presented high convergent validity with other established measures of religiosity (r's = 0.71–0.86).

In this research, two first sub-scales have been used to measure organizational religious activity (ORA)—attending religious services or participating in other group-related religious activity, and non-organizational religious activity (NORA)—prayer, scripture study, watching religious TV or listening to religious radio.

The ORA and the NORA have been given to approximately 7,000 participants (age 18 to 90) in many epidemiological studies (Koenig & Büssing 2010). The ORA has been linked to less depression, lower mortality, lower health service, more social support and better physical health (Koenig 2008). The NORA, on the other hand, has been connected to poorer physical health and greater social support, as well as to less or more depression (depending on population) (Koenig et al. 1997).

The scale has been applied to a student sample (Storch et al. 2004). Since no German and Polish language adaptations were available while carrying out the study, I translated both sub-scales from English (the first and the second items) into Polish and German.

Coping with stress was assessed on the Perceived Stress Scale (PSS-10) formulated by Cohen and Williamson (1988). It is a 10-item tool with five answers on a Likert scale, designed to measure the degree to which situations in one's life are viewed as stressful, unpredictable, uncontrollable or overloaded. For example: In the past month, how often have you been upset because of something that happened unexpectedly? (0-never; 4-often).

It is scored by reversing the responses and adding them to the positive statements. Moreover, it has been used in a student sample in studying the relationship between perceived stress and social support (Louie-Griffith 2009), life-satisfaction, and coping resources (Matheny et al. 2008, Gardiner 2006). The studies have shown reversed correlation between perceived stress and the mentioned factors. The scale is reliable ά=0.85. (Cohen 1988).

In this research, an adaptation from Büssing (2011) for Germany and a version from Juczynski and Oginska-Bulik (2009) for Poland have been used.

In order to assign value to self-efficacy the General Self-Efficacy Scale (GSE) has been used. The tool was designed by Schwarzer and Jerusalem (1981, 1992). It is a 10-item scale with four answers. Each item refers to successful coping with daily problems and adaptation after experiencing stressful life events. The questions concern recovery from setbacks, persistence in the face of obstacles, effort, investment, and goal-setting. For example: When I am confronted with a problem, I can usually find several solutions (1-not at all true; 4-exactly true).

The scores are obtained by adding the responses. The scale is reliable: ά=0.75 (Schwarzer, Mueller, & Greenglass 1999).

The GSE emerged in cross-cultural studies involving Germany (ά=0.82), Poland (ά=0.85) and a sample of young people (Luszczynska et al. 2005; Swarzer et al. 2002).

In the present study, a German version from Schwarzer & Jerusalem (1992) and a Polish adaptation from Juczynski (1998) have been used.

Table 1 illustrates Cronbach alpha of the instruments applied to the German and Polish samples in the current study (Annex 2).

Table 1 Reliability of the scales

Country	N	Cronbach alpha				
		SOC (29 Items)	SCSORF (10Items)	ORA & NORA (DUREL)	PSS (10Items)	GSE (10Items)
Germany	1623	ά=0.88	ά=0.95	ά=0.84	ά=0.86	ά=0.86
Poland	643	ά=0.92	ά=0.94	ά=0.84	ά=0.87	ά=0.88

Socio-demographic Questionnaire was used in order to collect information about country, religious affiliation ("What religion do you practice?"), age, sex, migrations (place of birth, place of residence), personal status (having own family, having a partner), family (parents' education level, siblings, divorce) and social network. The study aimed to examine Catholic, Protestant, Buddhist and non-religious students.

Collecting the sample

The study was carried out through the internet platform, *Uni Park*. The request for an anonymous participation together with the link to the questionnaires was sent through an email to different student associations, private and public universities, religious associations (Catholic and Protestant), and to Buddhist centres in Germany and Poland. The research was conducted between 6 June and 6 August 2011.

Exclusion criteria (Table 2)

The exclusion criteria for the present study were

- Incomplete questionnaires (missing responses)
- Participants over the age of 31
- Membership of a religious group having less than 50 respondents

Table 2 Returns rate (in percentage)

	Germany	Poland
Number of respondents at the beginning	N=2634	N=1756
Other religious denominations or unclear answers on that question	13	2
Missing responses	22	59
Above age of 31	4	3
Number of respondents at the end	61	36

Participation

There were 1623 (72%) respondents from Germany and 643 (28%) from Poland who had completed the questionnaire. The age range of students was 19–30 years (average 23.4 years old). The respondents were divided into two age groups. The first included students between 19 and 24 (72%) and the second of ages 25 to 30 (28%). The sample had 26% men and 74% women (Table 3, Annex 1).

Table 3 Gender and Age (in percentage)

	Germany	Poland	Total
Men	24	33	26
Women	76	67	74
Age group 19–24	67	83	72
Age group 25–30	33	17	28

The breakdown of religious affiliations and non-religious respondents in the samples presented interesting differences across the countries (Table 4). While a large percentage (45%) of the German students reported no confession, only one-fourth of the Polish students did the same. There were no Protestants in the Polish sample, and over half the Polish sample (66%) declared themselves to be Catholics. It was in line with Polish statistics. Catholics make up more than 90% of the Polish population (35 million) against only 160,000 Protestants and 5000 Buddhists (Rocznik statystyczny GUS[11] & ISKK[12] 2014).

While in the German sample 30% of young people declared themselves to be Protestants, only 19% were of the Catholic denomination. In spite of such a small number of German Catholics in the sample, it needs to be stressed that Catholics and Protestants are very differently distributed across the country. North and East Germany is more Protestant, while South and West Germany is more Catholic. Statistics show there are 24 million Catholics and 23 million Protestants and 130.000 Buddhists in Germany (Statistisches Bundesamt 2011, REMID[13] 2011).

Table 4 Denomination (in percentage)

	Germany	Poland
Protestants	30	—
Catholics	19	66
Buddhists	6	8
Non-religious	45	26

11 Central Statistical Office in Poland.
12 Institute of Statistic of the Catholic Church in Poland.
13 Religionswissenschaftliche Medien- und Informationsdienst in Germany.

Religious indicators were an important research problem in this study. Thus, the breakdown of the sample contains tables and figures giving us some interesting socio-cultural information (attitude towards faith and religious practice) about the young people of these two countries.

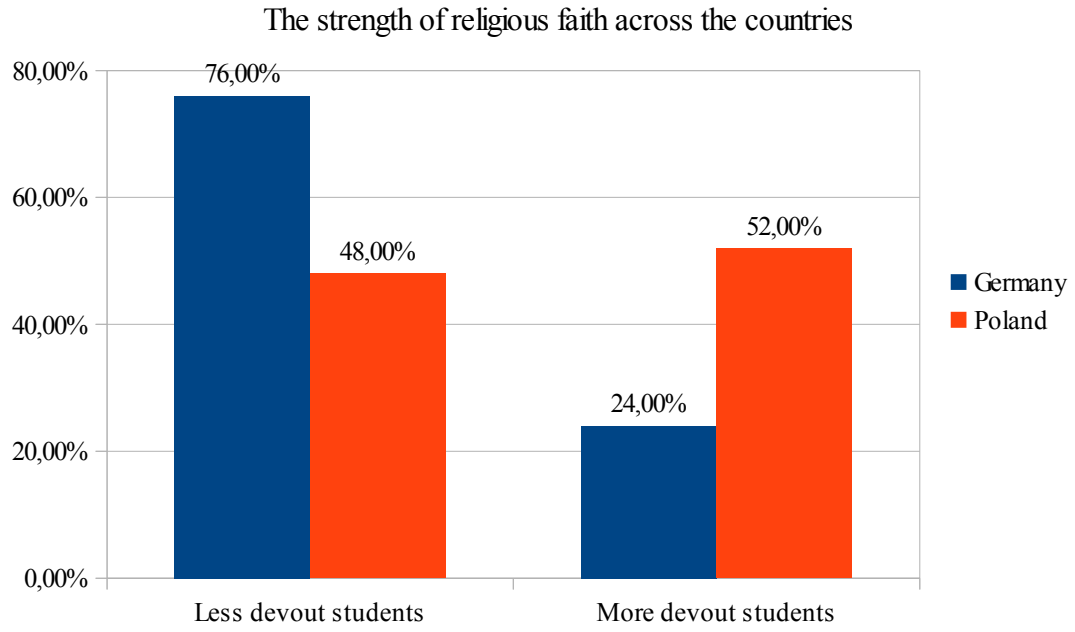
Not surprisingly, German and Polish students presented different attitudes towards their own faith. While more than 70% of the Germans declared themselves to be less devout, less than half the Poles had the same attitude towards their own faith (48%). Whereas less than one-third (24%) of the German sample considered themselves more devout, over half the Polish sample (52%) said they were highly so (Table 5, Figure 5a, Annex1).

As per other statistical data, 27% of Catholic youth and 23% of evangelic youth from Germany declared themselves as religious (Schneider 2011, after Evangelic News Agency 'idea'). According to CBOS[14], approximately 90% of the young Polish population declared themselves as religious (CBOS 2009).

Table 5 Strength of religious faith (in percentage)

	Germany	Poland
Less devout students	76	48
More devout students	24	52

Figure 5a



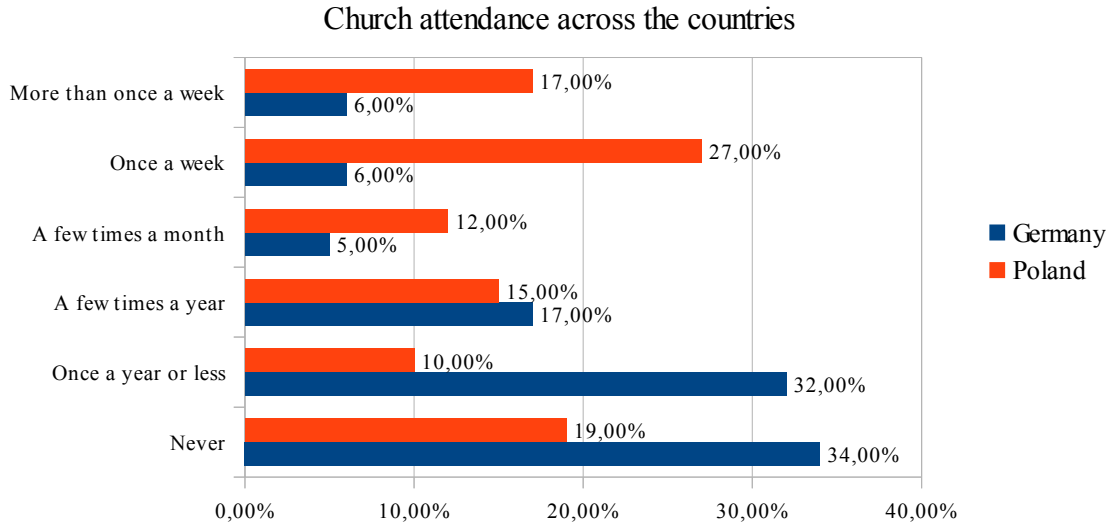
14 Centre for Public Opinion Research in Poland.

Clearly, there were also crucial differences in church attendance levels between the samples. One-third of the German sample declared no interest (34%) and another third declared only weak interest (32%) in going into to church. On the other hand, less than one-fourth (19%) of the Polish students did not go to church at all, and only 10% of the group described themselves as very-rarely-infrequent churchgoers. While the biggest percentage of Poles visited church once a week (27%), followed by more-than-once-a-week-churchgoers (17%), there were only 6% Germans for each of the same two categories (Table 6a, Figure 6a, Annex 1). According to other statistical data, only 16% of youth attended religious service weekly or more than once a month. It was found 84% of the responds were definitely less interested in going into church (among this group 30% of youth did not do so at all) (Questionnaire in *Augsburger Allgemeine,* 2015). At the same time, 37% of Polish young population declared attending church regularly (Rocznik statystyczny ISKK & GUS, 2014).

Table 6a Church attendance (in percentage)

	Germany	Poland
More than once a week	6	17
Once a week	6	27
A few times a month	5	12
A few times a year	17	15
Once a year or less	32	10
Never	34	19

Figure 6a



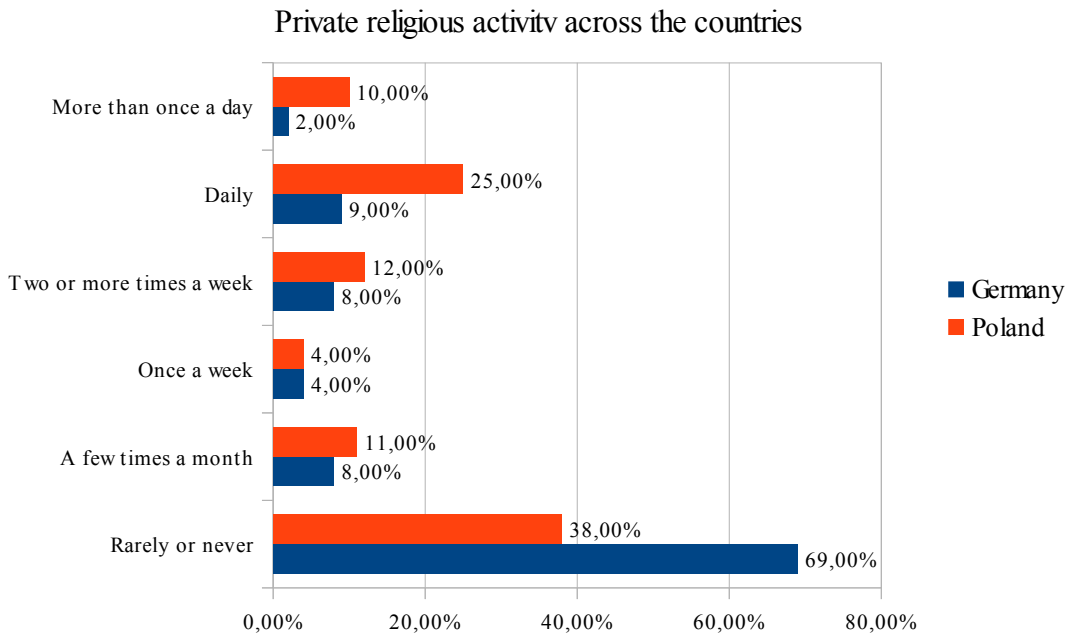
There were also dissimilarities in private religious activities between the samples.

In Germany, almost 70% of the students did not read the Bible, pray, or meditate at all. In Poland, 38% of the sample gave the same response. While one-third of the Polish sample (24%) practised their private religious activities daily, only 8% of the German students did the same (Table 7, Figure 7a, Annex 1).

Table 7 Private religious activity (in Percent)

	Germany	Poland
More than once a day	2	10
Daily	9	25
Two or more times a week	8	12
Once a week	4	4
A few times a month	8	11
Rarely or never	69	38

Figure7a



To sum up, there were clearly some socio-cultural differences in attitude towards religion in these two countries. They have been taken into consideration in the discussion part.

Statistical analyses

The data were analysed using the Statistical Package for the Social Sciences (SPSS-22).

- T-test

T-tests were applied to examine possible differences in SOC level, the stress perception (PSS), and self-efficacy (GSE) across less devout and more devout students (SCSORF).

Additionally, T-tests were done to investigate the assumptions concerning SOC, the stress perception (PSS), and self-efficacy (GSE) across more- and less-frequent churchgoers (ORA), as well as between students deeply engaged in private religious practice and students showing a lower degree of such engagement (NORA).

Last but not least, T-tests were employed to explore the possible dissimilarities in SOC, the perception of stress (PSS), and self-efficacy (GSE) in a cross-cultural context.

- ANOVA

ANOVA analyses (post-hock Bonferoni) were used to verify if SOC remains the same across different religious affiliations (and non-religious students). It was also employed for testing the assumptions about the stress perception (PSS), and self-efficacy (GSE) among varied denominations (and non-religious students).

Further, two-way ANOVA analyses were done to investigate possible interaction effects between individual religious indicators (SCSORF, ORA, NORA) and countries with respect to SOC, and between each coping capacity (PSS, GSE) and country with respect to SOC.

The following null hypotheses were tested:

1. H_0 There is no an interaction effect between the strength of religious faith and country on SOC.
2. H_0 There is no an interaction effect between church attendance and country on SOC.
3. H_0 There is no an interaction effect between private religious activity and country on SOC.
4. H_0 There is no an interaction effect between the stress perception and country on SOC.
5. H_0 There is no an interaction effect between self-efficacy and country on SOC.

- Stepwise multiple regressions

A stepwise multiple regression analysis was performed to check the contribution of the given macro-socio-cultural GRRs (SCSORF, ORA, NORA, country) to SOC in the complete sample. The scarcity of Protestants in Poland led to the removal of denomination from the regression for the entire sample. Two additional regressions were separately done for the German and Polish samples to find out how religious affiliations and the religious indicators (SCSORF, ORA, NORA) contributed to SOC across the countries. Before doing the regression analysis, several key assumptions of linear regression were tested. These

assumptions justified the use of the analysis for the purpose of prediction and inference (Backhaus et al., 2003, Field 2013). They were tested for every single regression.

1. The model is correctly specified, which implies the following:
    a) The model is linear in its parameters (linearity);
    b) It considers all relevant explanatory variables;
    c)The number of measurements (observations) is larger than the number of parameters.
2. The expected value of the error term is zero.
3. The independent variable is not correlated with the error term.
4. The variance of the error term is constant for all the values of the independent variable (homoscedasticity).
5. There is no auto-correlation.
6. There is little or no multicollinearity between independent variables.
7. The error term is normally distributed.

1a) The linear regression can estimate the relationship between the variables if the relationships between dependent variables and an independent variable are linear in nature. To examine this assumption, the Pearson product–moment correlation was applied (Backhaus et al. 2003). SCSORF, ORA, NORA, and country were considered as independent variables in the complete sample. SCSORF, ORA, NORA and denomination were deemed independent variables for the German and Polish samples separately. SOC was considered a dependent variable in all regressions. A table from Brosius (1998) was used to interpret the strength of these correlations.

1b) This assumption was considered to be fulfilled. It was supposed that all important factors were subsumed under the model.

1c) This assumption was considered as fulfilled. The number of observations for the complete sample was N=2266; it was N=1623—for the German sample and N=643—for the Polish sample.

Moreover, Assumptions 2 and 3 were considered to be fulfilled.

4. The next assumptions concerned homoscedasticity, in which the variance of errors remains the same across all levels of independent variables. A strong heteroscedastic (an opposite situation) may have a strong effect on the significance of tests and lead to a distortion of findings. Homoscedasticity was examined by residual plots. In the present study, modified residuals (standardized residuals) were considered, because the ordinary residuals (as opposed to standardized ones) are typically auto-correlated 'by nature' and are heteroscedastic

(Fahrmeir et al., 2009).

5. Auto-correlation of residuals was examined using the Durbin-Watson test. The value of this test ranges from 0 to 4. The residuals are uncorrelated when the value is approximately 2. A value close to 0 indicates strong positive correlation, while a value of 4 indicates a strong negative correlation (Backhause et al. 2013).

6. Multicollinearity occurs when independent variables are highly correlated. In this study, a variance inflation factor (VIF) was used in order to test this assumption. VIF >10 means correlated, 5 <VIF <10 means moderately correlated, and VIF=1 means not correlated (Field 2013).

7. Finally, the error term should be normally distributed. In the present study, this assumption was considered fulfilled, based on the central limit theorem in sufficiently large samples (Backhaus et al. 2003).

3.3 Results

First, the given data had to be prepared for the analyses. For this purpose, the following procedures were adopted.

- Normal distribution test

To begin with, a data normality test was conducted. Normality can be assessed in two different ways—graphically and numerically. The present study applied the visual method of inspection. The statistical method for normality was rejected because it could be overly sensitive to large samples (Bühl 2008). The following variables were tested—SOC, SCSORF, ORA, NORA, PSS, and GSE. According to SOC graphs, PSS and GSE were normally distributed (comprising the bell curve), and SCSORF, ORA, NORA were non-normally distributed (Annex 2).

However, the following parametric T-test was used for SCSORF, ORA and NORA as it is robust against moderate deviations from normality (Rost 2007, Westermann 2000).

First, the given data had to be prepared for the analyses. Thus, the following procedures took place.

- Split median and split mean procedures

Secondly, split median procedures for the Strength of Religious Faith Questionnaire (SCSORF) and church attendance (ORA), and split mean procedure for private religious activity (NORA) was employed to make a distinction between more religiously active and less religiously active students.

According to the guidelines of the authors, the median range for SCSORF for the first group was 10–26 (less devout students), and 27–40 for the second group (more devout students) (Plante & Boccaccini 1997).

Since, there were no guidelines about a median split for ORA and NORA, it was carried out empirically. Therefore, a median split range for the ORA in the first group was ≥2 (more-frequent churchgoers) and <2 in the second group (less-frequent churchgoers) (Annex 2).

For NORA a mean split instead of a median split procedure was computed. Thus, the median in NORA was 1. The mean split range for NORA was ≥2.2 (more engaged in a private religious practice). For the second group, it was <2.2 (less engaged in a private religious practice) (Annex 2).

A median split procedure was used for PSS and GSE before testing the interaction effects. A median split range for PSS was 18≥ (for the high-stress group) and 18< (for the low-stress group) (Annex 2).

A median split range for the GSE was 30≥ (for high self-efficacy group) and 30< (for low

self-efficacy group) (Annex 2).

- Dummy variables

An important limitation of multiple regression is that it takes only quantitative responses into account. In other words, the results will be valid if numerical variables are used. In categorical variables (nominal scale, nominal variables, etc.), the different values have no real numerical relationship with each other. It means categorical variables need to be translated into numerical variables.

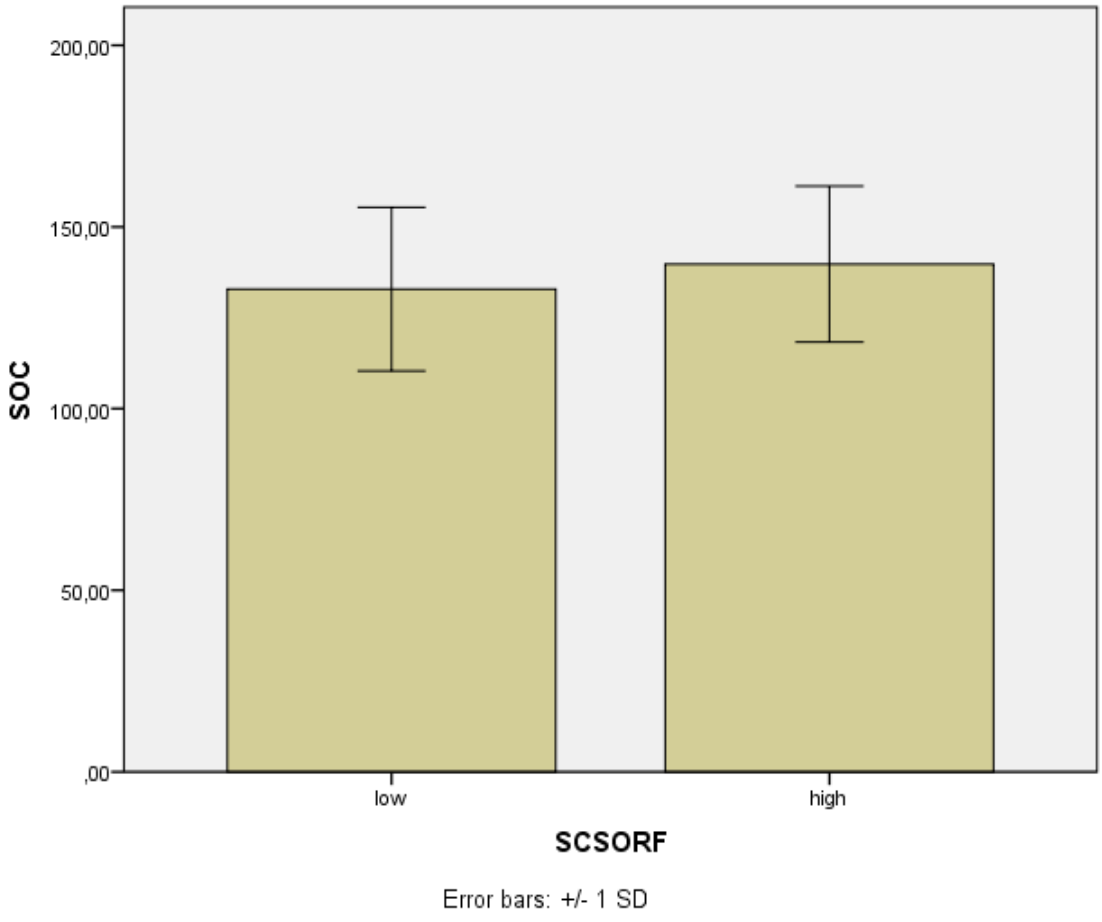
Therefore, two nominal scales, namely country (regression for the complete sample) and denomination (regression for the German and Polish samples), were recoded in this research into dummy variables.

- **Religion and SOC**

1. More devout students will score higher on SOC than students with a weaker religious engagement.

In order to examine the first assumption, a T-test was conducted. SOC was considered to be a dependent variable. Levene's test showed no significant variance differences between the groups—low (less devout students) and high (more devout students), F=2.287, p=.131. Therefore, a T-test assuming equal variance was used. The the results showed, there were significant dissimilarities in SOC between these two groups t(2264)=-6.884, p<.05, d=-.3. More devout students enjoyed a better SOC level than less devout students. Hence, the assumption was valid (Annex 3, Figure 1).

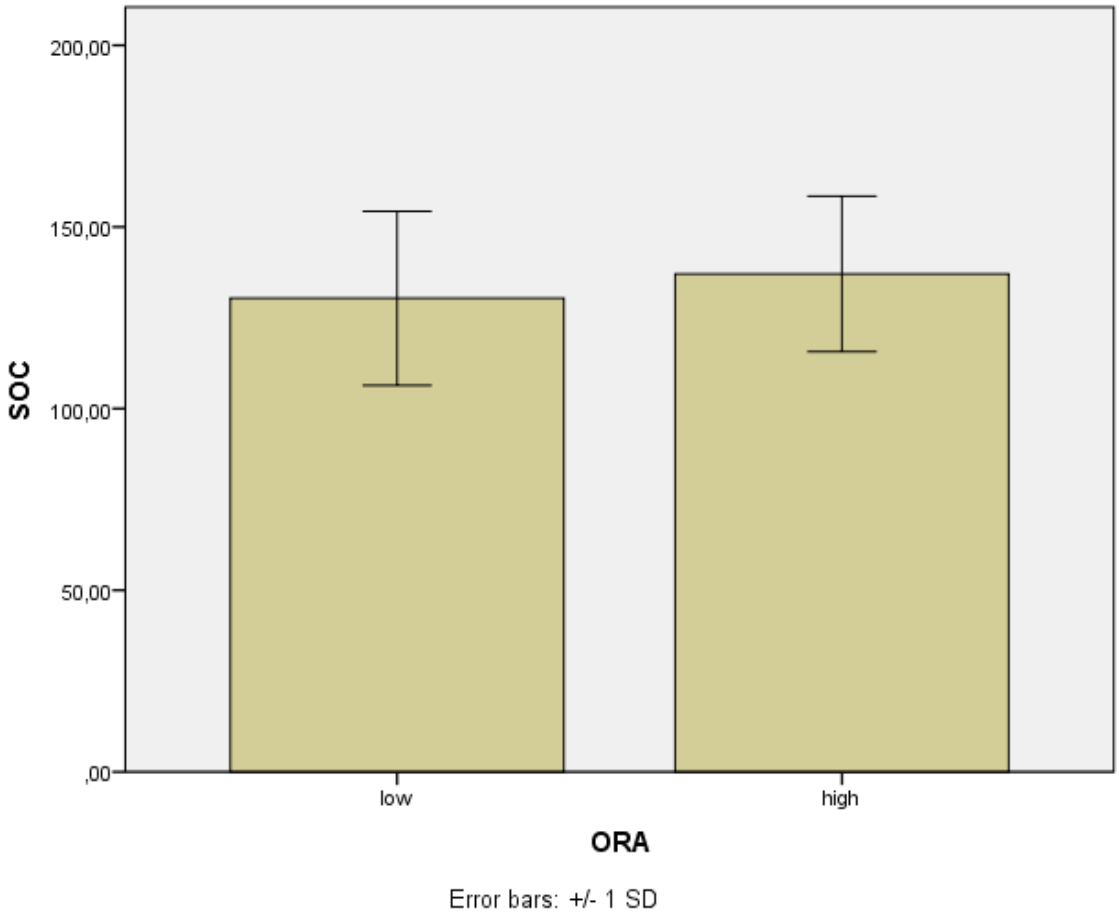
Figure 1



2. Students going to church or visiting other religious meetings frequently will score higher on SOC than those doing so less often.

A T-test was done to examine the second assumption. SOC was considered to be a dependent variable. Levene's test showed significant variance differences between the groups—low (less-frequent churchgoers) and high (more-frequent churchgoers), $F=8.791$, $p=.003$. Therefore, a T-test was done assuming an absence of equal variance. The outcomes revealed important differences in SOC between the groups, $t(1138.110)=-6.289$, $p<.05$, $d=-0.3$. Accordingly, more-frequent churchgoers presented a stronger SOC than those who went to church or other religious meetings more rarely. Therefore, the assumption was valid (Annex 3, Figure 2).

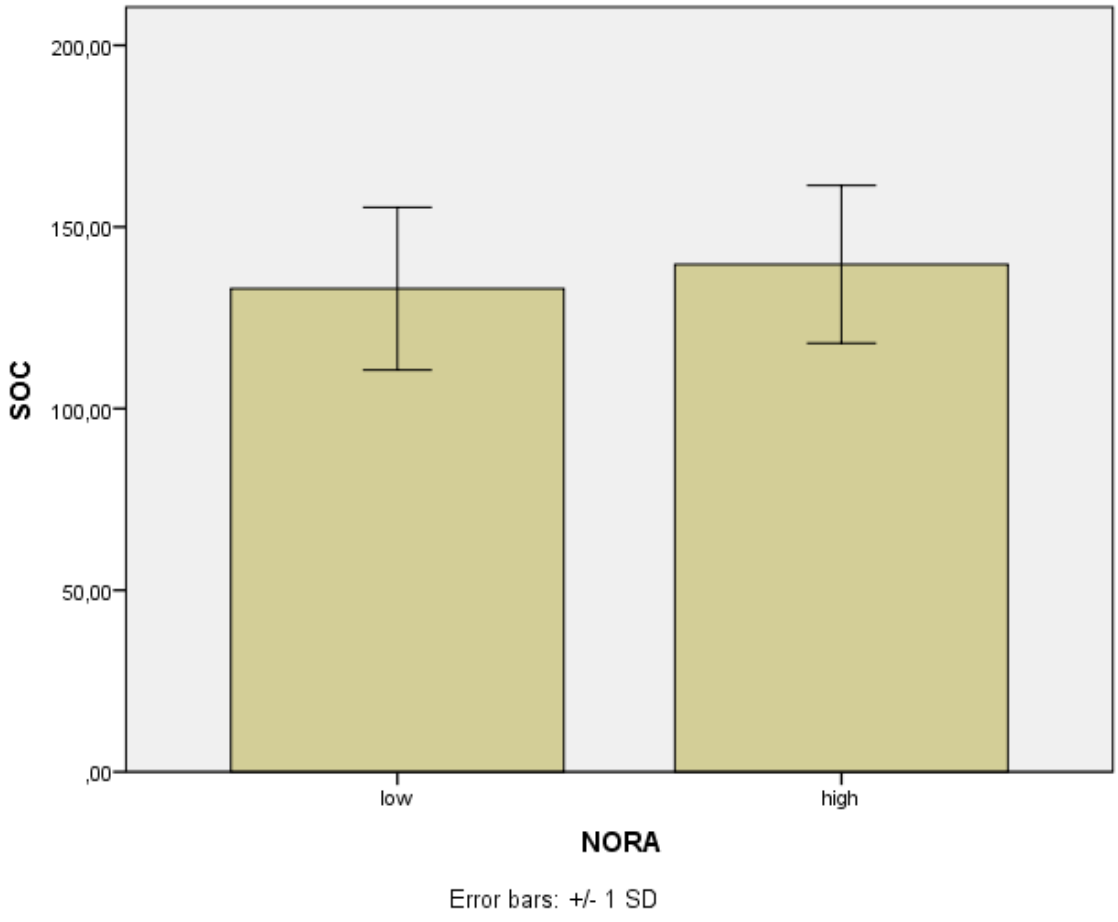
Figure 2



3. Students who pray, meditate, or study the Bible frequently will score higher on SOC than those who do so less often.

A T-test was applied in order to examine the third assumption. SOC was considered to be a dependent variable. Levene's test showed no significant variance differences between the groups—low (students who practise their religious faith less frequently) and high (students who practise their religious faith more frequently), F=.709, p=.4. Therefore, a T-test assuming equal variance was used. The test showed significant differences in SOC between the groups, t(2264)=-6.601, p<.05, d=-.3. More specifically, the outcomes confirmed the assumption by showing that students who prayed, meditated, or studied the Bible more frequently enjoyed a better SOC than their colleagues of the opposite group (Annex 3, Figure 3).

Figure 3

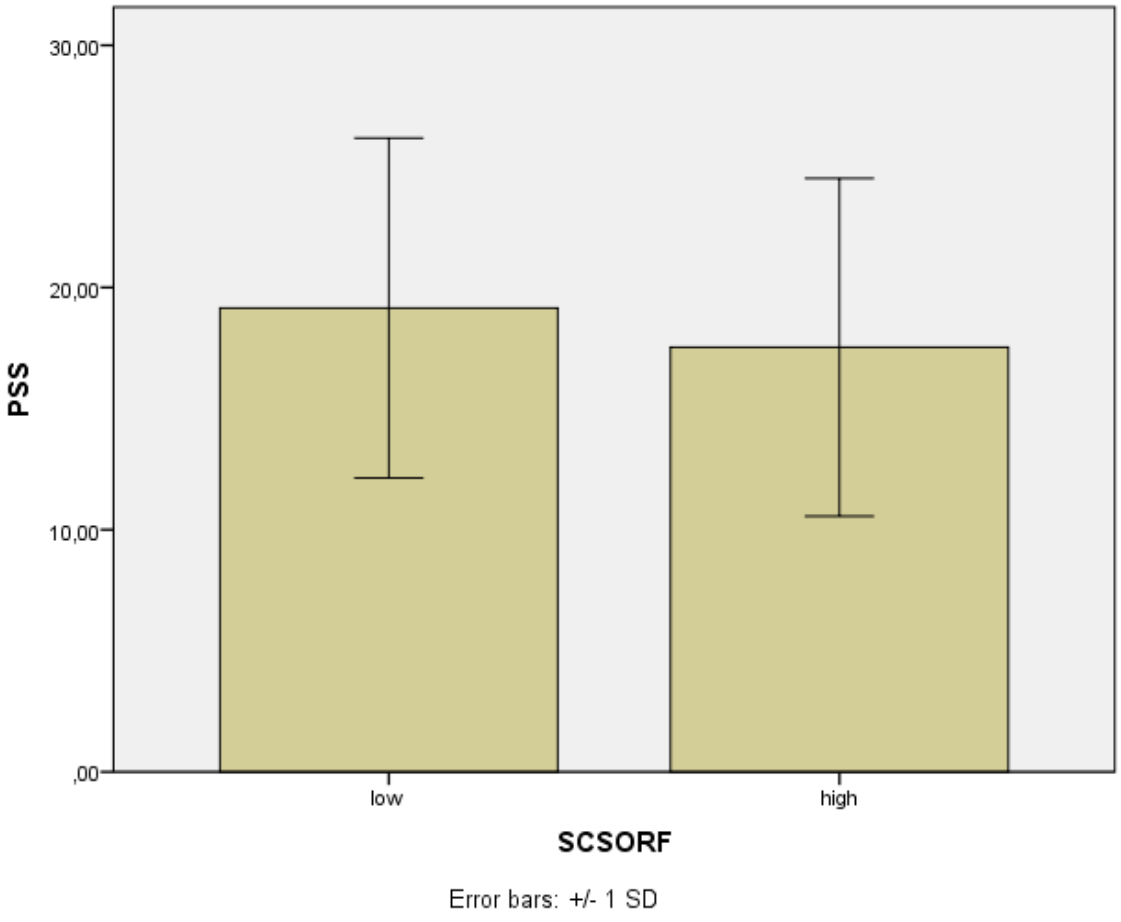


- **Religion and Perceived Stress Scale (PSS)**

4. More devout students will score lower on PSS than students with a weaker religious engagement.

A T-test was applied in order to examine the fourth supposition. PSS was considered to be a dependent variable. Levene's test showed no significant variance differences between the groups—low (less devout) and high (more devout), F=.013, p=.908. Therefore, a T-test assuming equal variance was employed. The T-test presented crucial differences in the stress perception between more devout and less devout students, t(2264)=5.142, p<.05, d=.2. According to the results, more devout students were less stressed than students from the opposite group. Thus, the outcomes were in line with the supposition (Annex 4, Figure 4).

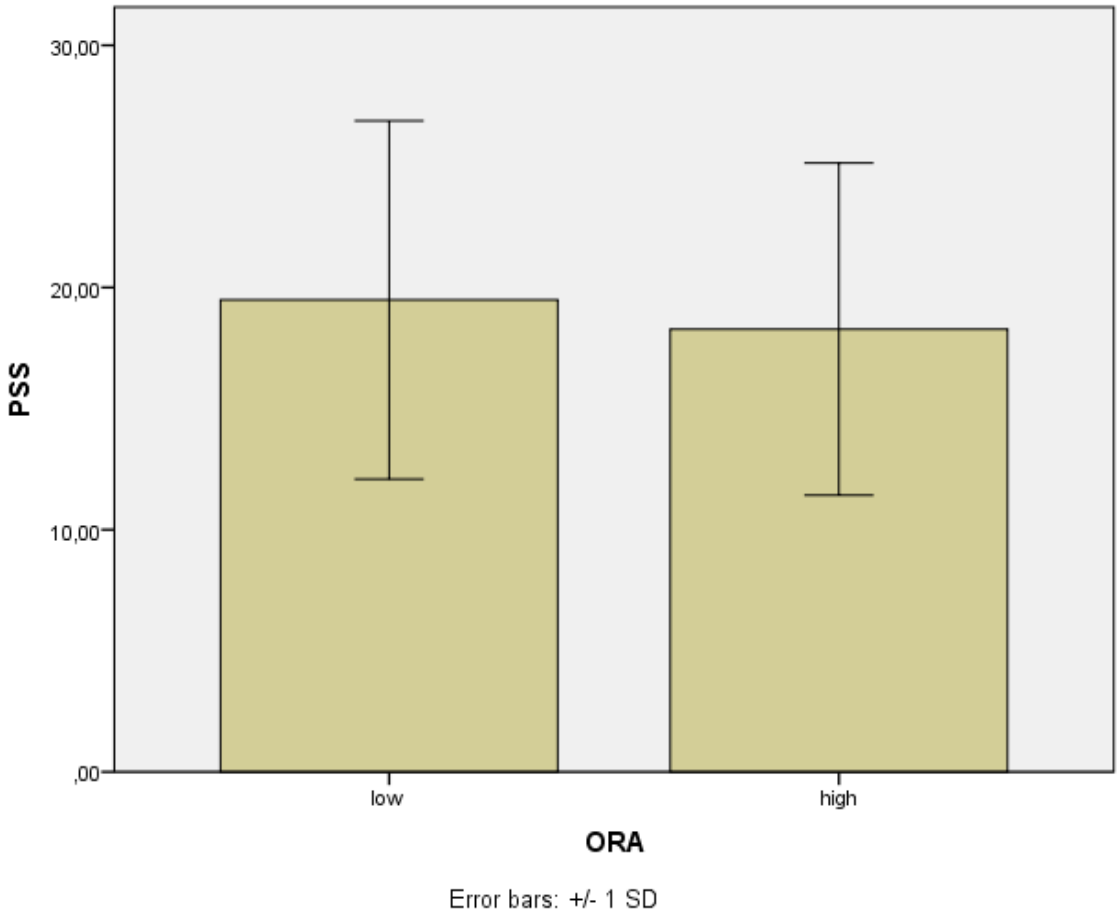
Figure 4



5. Students who go to church or attend other religious meetings frequently will score lower on PSS than those who do it less often.

A T-test was applied in order to examine the fifth supposition. PSS was considered to be a dependent variable. Levene's test showed significant variance differences between the groups —low (less-frequent churchgoers) and high (more-frequent churchgoers), $F=7.792$, $p=.005$. Therefore, a T-test assuming not equal variance was used. The T-test revealed crucial differences in the stress perception between less-frequent churchgoers and more-frequent churchgoers, $t(1174.827)=3.615$, $p<.05$, $d=.2$. The results indicated that less-frequent churchgoers perceived stress more intensely than more-frequent churchgoers. The outcomes supported the assumption (Annex 4, Figure 5).

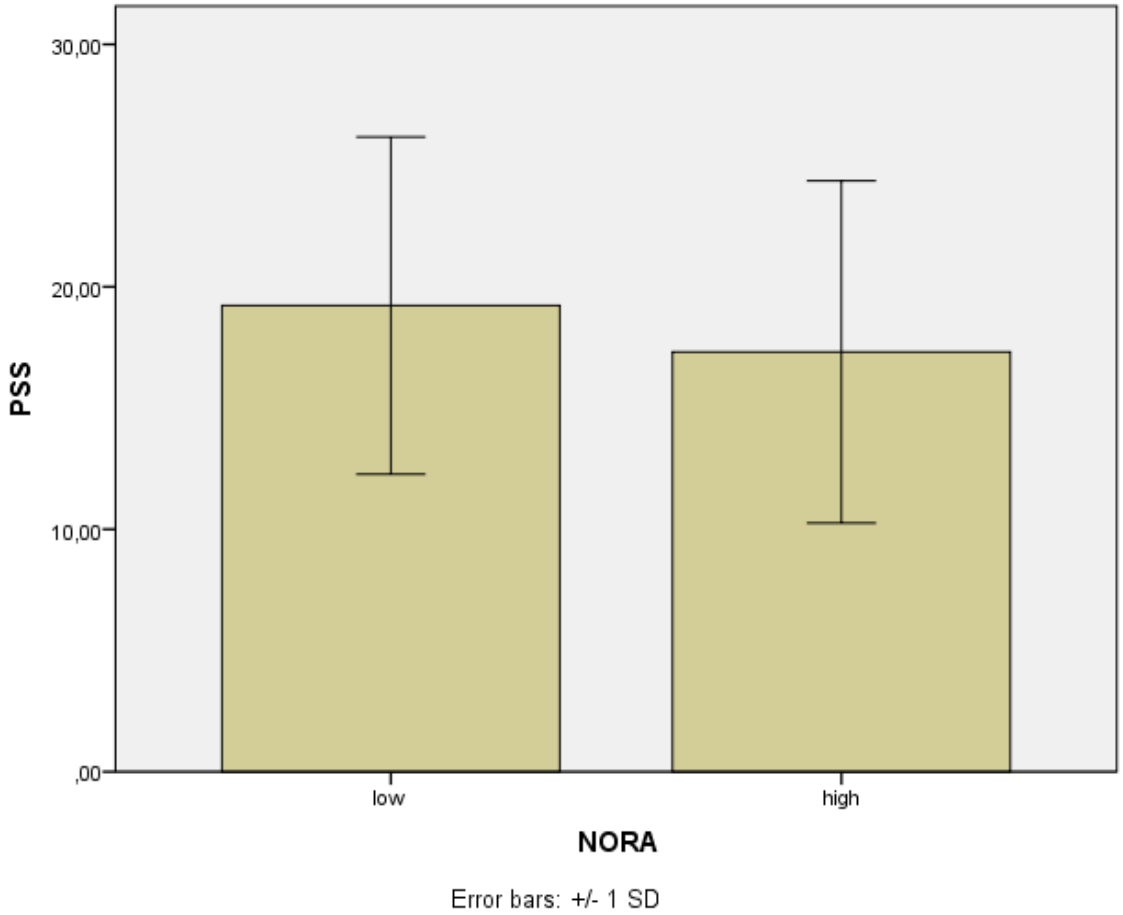
Figure 5



6. Students who pray, meditate or study the Bible frequently will score lower on PSS than those who do it less often.

A T-test was applied in order to examine the sixth supposition. PSS was considered to be a dependent variable. Levene's test showed no significant variance differences between the groups—low (students who practise their religious faith less frequently) and high (students who practise their religious faith more frequently), F=.131, p=.717. Therefore, a T-test assuming equal variance was used. The T-test presented crucial differences in stress perception between the low and high groups, t(2264)=6.012, p<.05, d=.3. The outcomes confirmed the assumption by showing that students who prayed, meditated, or studied the Bible more frequently were less stressed than their colleagues from the opposite group (Annex 4, Figure 6).

Figure 6

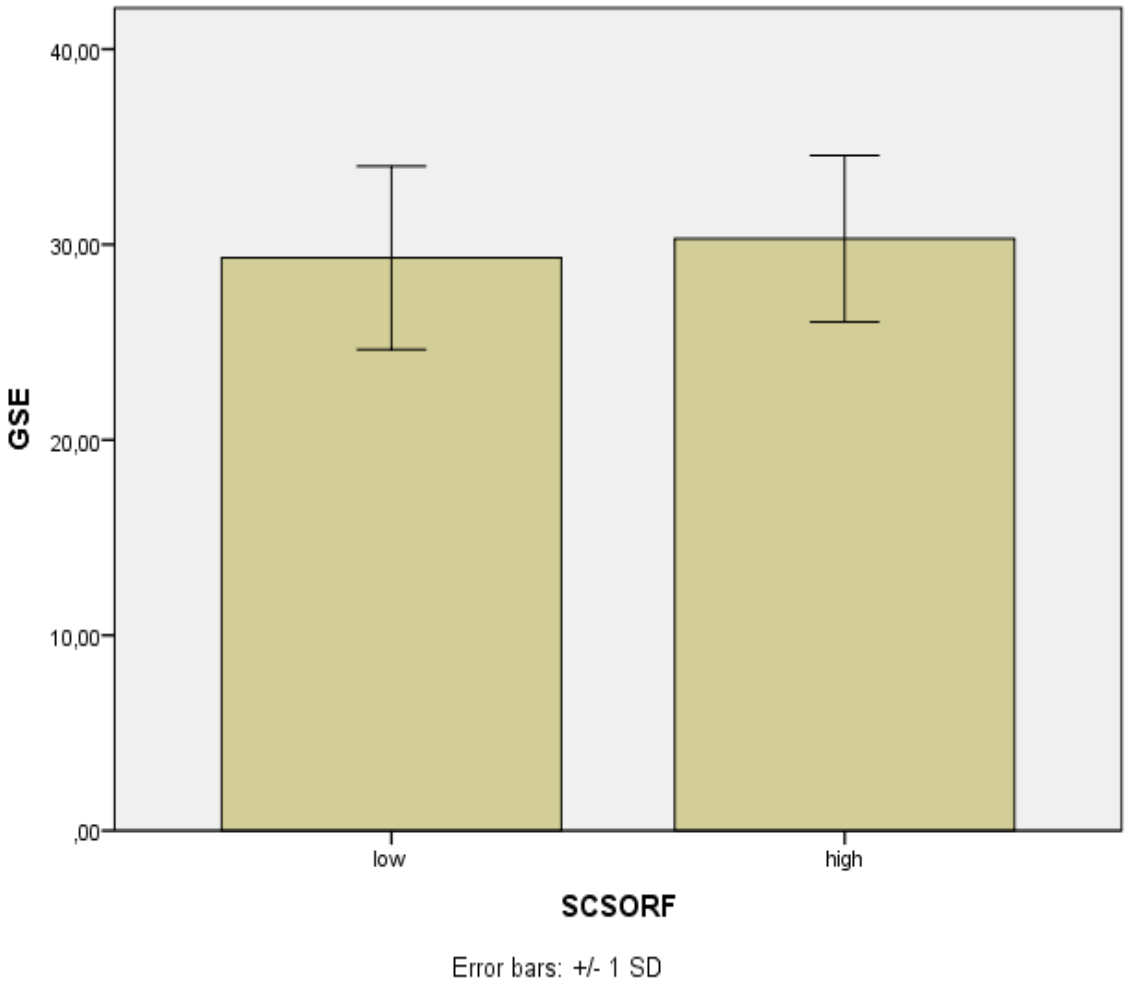


- **Religion and General Self-Efficacy (GSE)**

7. More devout students will score higher on GSE than students with a weaker religious engagement.

A T-test was used in order to explore this assumption. GSE was considered to be a dependent variable. Levene's test showed significant variance differences between the groups—low (less devout) and high (more devout), F=5.047, p=.016. Therefore, a T-test assuming not equal variance was used. The T-test revealed significant differences between these two groups, t(1539.267)= -4.903, p<.05, d=.1. The outcomes revealed, more devout students scored higher on self-efficacy than their less devout counterparts. The results confirmed the supposition (Annex 5, Figure 7).

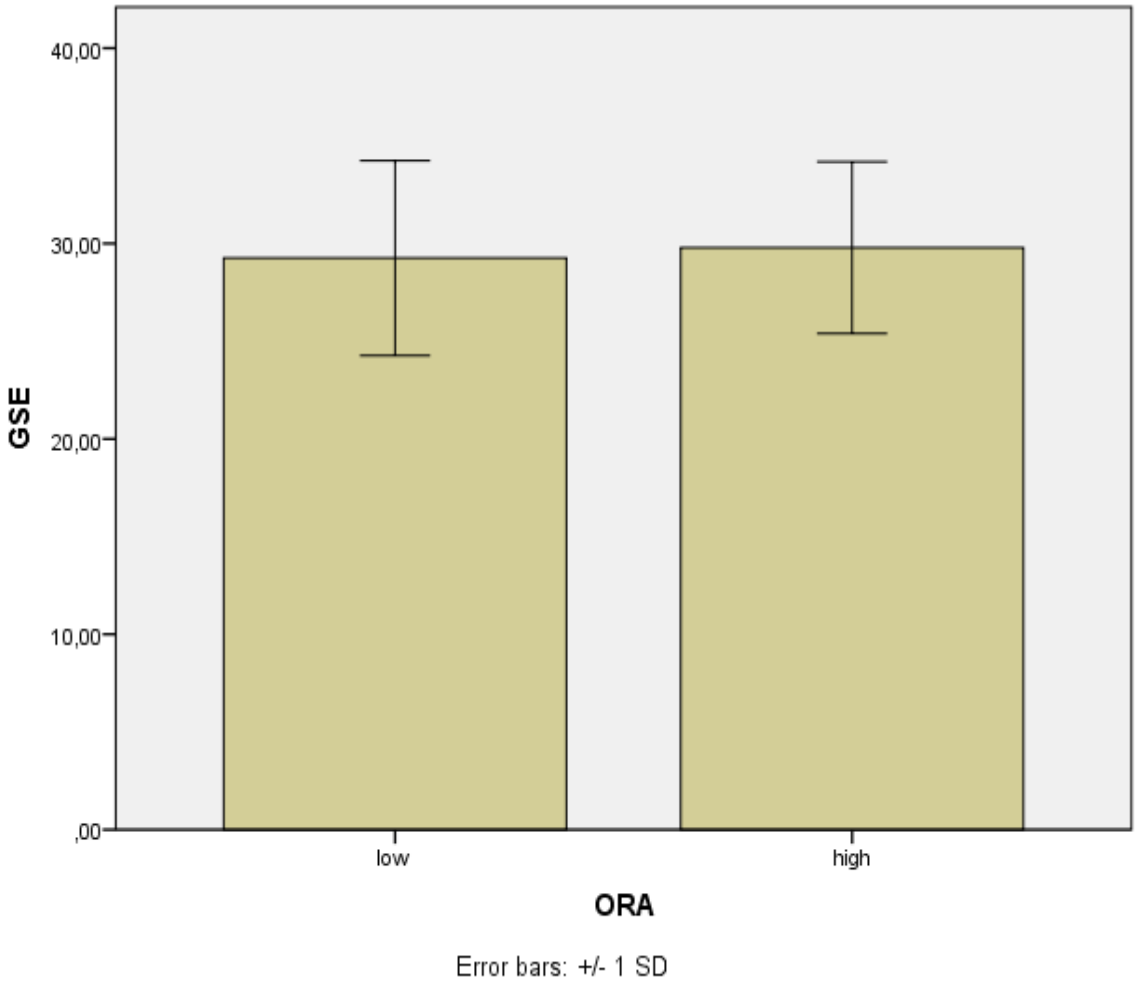
Figure 7



8. Students who frequently go to church or attend other religious meetings will score higher on GSE than those doing so less often.

A T-test was conducted to investigate the eighth supposition. GSE was considered to be a dependent variable. Levene's test showed significant variance differences between the groups —low (less-frequent churchgoers) and high (more-frequent churchgoers), $F=17.729$, $p<.05$. Thus, a T-test assuming absence of equal variance was used. The outcomes presented important dissimilarities between these groups, $t(1126.011)= -2.414$, $p<.05$, $d=-.1$. More-frequent churchgoers scored better on GSE than less-frequent churchgoers. The results were, thus, in keeping with the assumption (Annex 5, Figure 8).

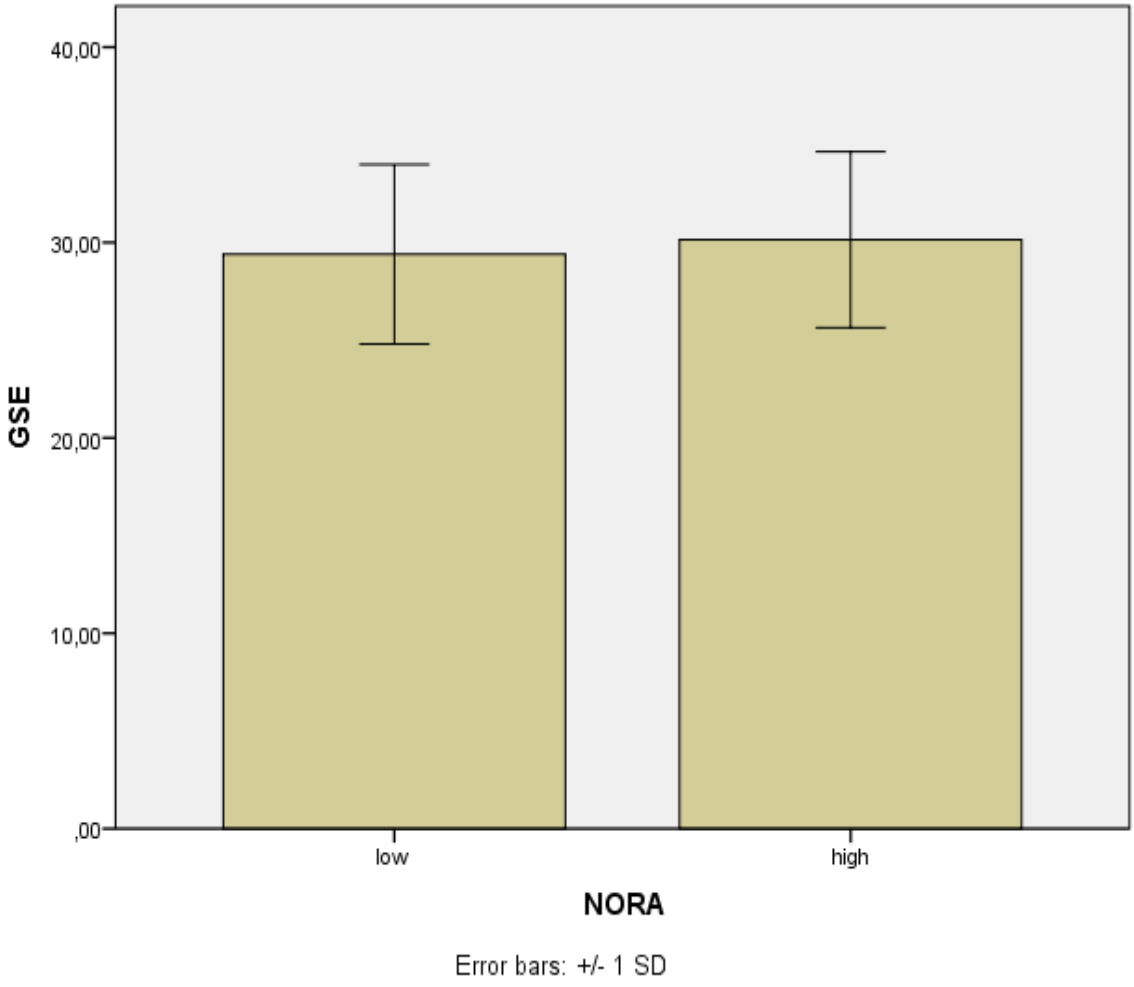
Figure 8



9. Students who pray, meditate or study the Bible frequently will score higher on GSE than those who do so less often.

To investigate the supposition, a T-test was done. GSE was considered to be a dependent variable. Levene's test showed no significant variance differences between the groups—low (students who practise their religious faith less frequently) and high (students who practise their religious faith more frequently), F=1.362, p=.243. Thus, a T-test assuming equal variance was used. The outcomes pointed to important differences between the groups, t(2264)= -3.554, p<.05, d=-.1. They showed that students who prayed, meditated, or studied the Bible more frequently enjoyed better self-efficacy than their colleagues from the opposite group. The results were in line with the assumption (Annex 5, Figure 9).

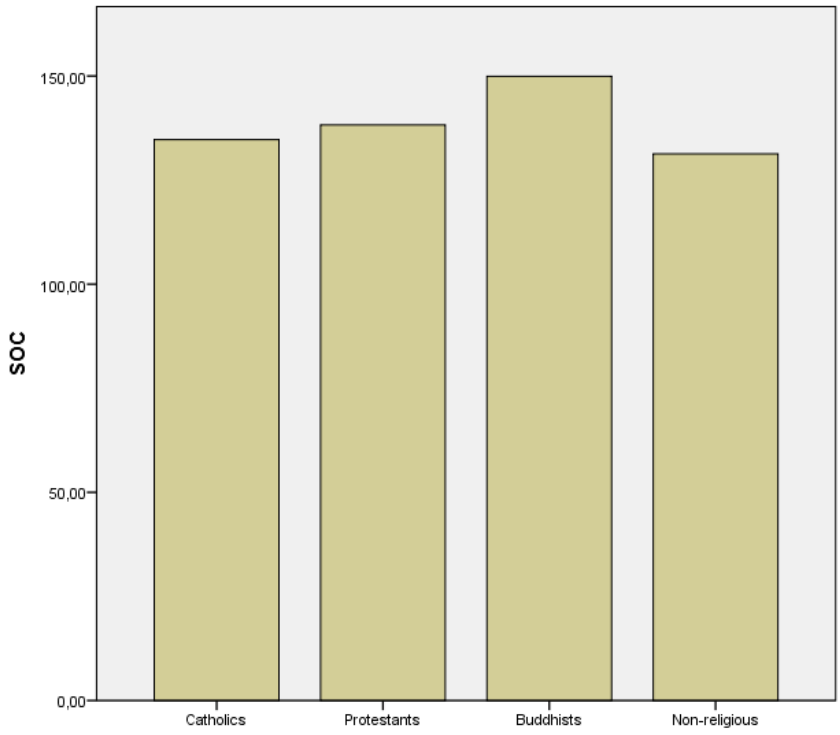
Figure 9



- **Denomination (including Non-religious) and SOC**

10. Important dissimilarities may appear in SOC across different religious denominations. An ANOVA was employed to examine this assumption. SOC was considered to be a dependent variable. Levene's test showed significant variance differences between the given religious affiliations, $F(3, 2262)=10.071$, $p<.05$. Since the variances were significantly different, creating doubts about the correctness of the ANOVA answers. Hence, a Welch test was conducted. The test was significant, $p<.05$, which means the ANOVA results were trustworthy. The results showed, SOC significantly differed among the groups, $F(3, 2262)=34.099$, $p<.05$, $\eta^2=.043$. The post-hoc Bonferroni correction pointed out that these differences were between all religious affiliations—Catholics and Protestants ($p=.034$), Catholics and Buddhists ($p<.001$), Catholics and Non-religious ($p=.011$), Protestants and Buddhists ($p<.001$), Protestants and Non-religious ($p<.001$), as well as Buddhists and Non-religious ($p<.001$) (Annex 6, Figure 10).

Figure 10



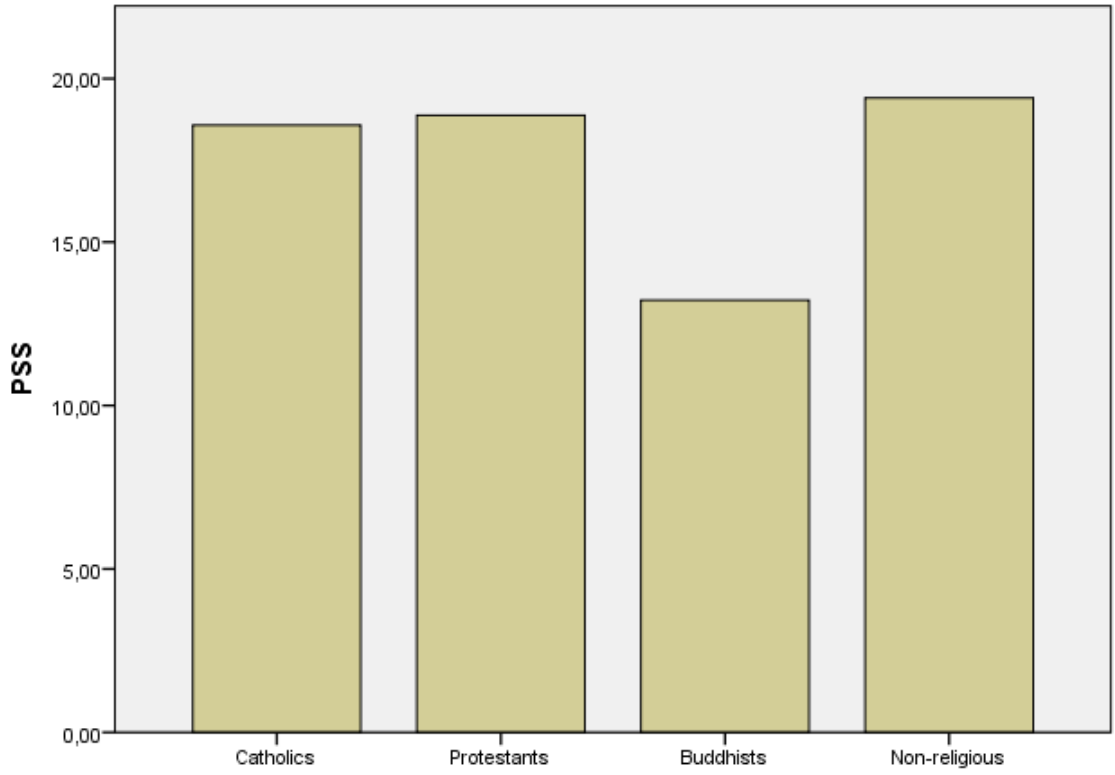
- **Denomination (including Non-religious) and Perceived Stress Scale (PSS)**

11. Crucial differences may appear on PSS across varied religious denominations.

For investigating this supposition, an ANOVA was used. PSS was considered to be a dependent variable. Levene's test showed significant variance differences between the given religious affiliations, $F(3, 2262)=6.944$, $p<.05$. Since the variances were significantly different, creating doubts about the correctness of the ANOVA answers. However, a Welch test was significant, $p<.05$, proving the ANOVA results reliable.

The results showed, PSS significantly differed across the groups, $F(3, 2262)=33.203$, $p<.05$, $\eta^2=.042$. The post-hoc Bonferroni correction pointed out that these differences were between the following religious affiliations—Catholic and Buddhists ($p<.05$), Protestants and Buddhists ($p<.05$), as well as Non-religious and Buddhists ($p<.05$) (Annex 6, Figure11).

Figure 11

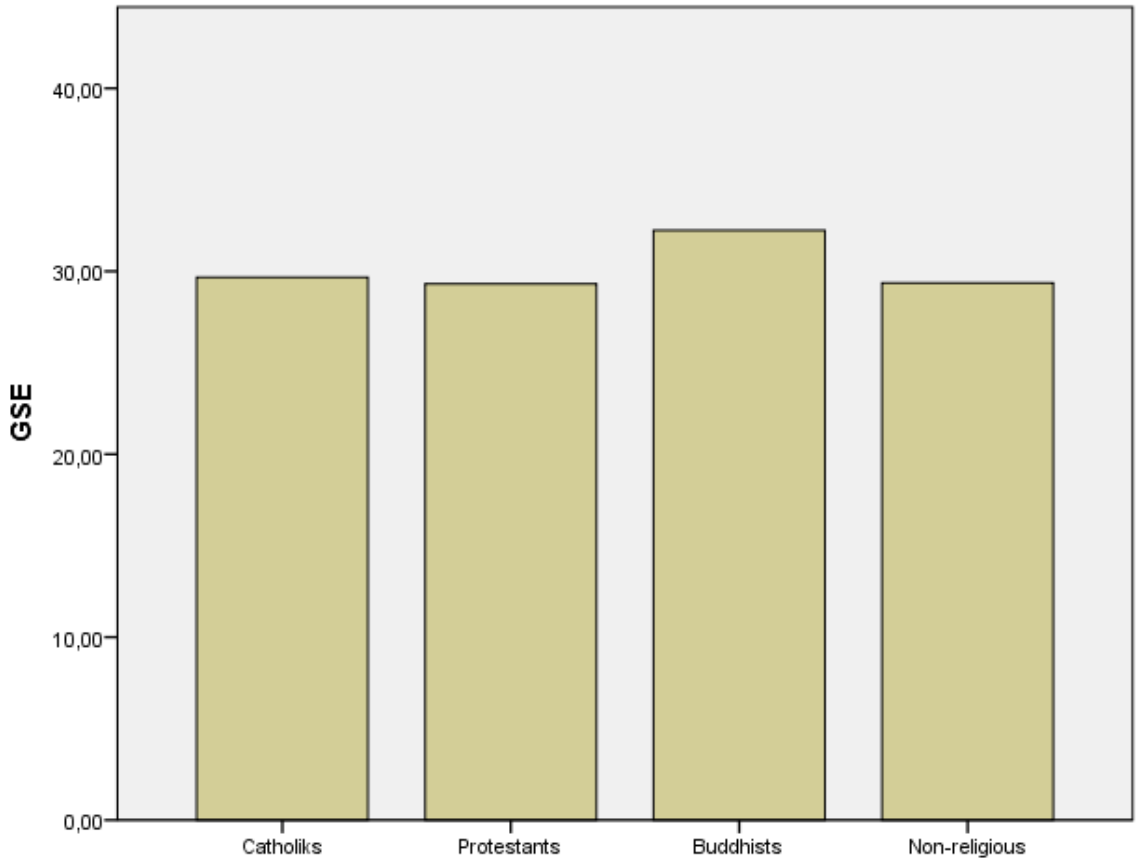


- **Denomination (including Non-religious) and General Self-Efficacy (GSE)**

12. Statistically important dissimilarities may appear on tGSE across different religious denominations.

To investigate this supposition, an ANOVA was used. GSE was considered to be a dependent variable. Levene's test showed significant variance differences between the given religious affiliations, $F(3, 2262)=7.263$, $p<.05$. But the Welch test was also significant, $p<.05$. Therefore, we could relay on the ANOVA results. The results revealed self-efficacy significantly differed across the groups, $F(3, 2262)= 17.490$, $p<.05$, $\eta^2=.023$. The post-hoc Bonferroni correction revealed that these differences were between the following religious affiliations—Catholic and Buddhists ($p<.05$), Protestants and Buddhists ($p<.05$), as well as Non-religious and Buddhists ($p<.05$) (Annex 6, Figure 12).

Figure 12



- **Country and SOC**

13. There will be no statistically important dissimilarity in SOC among German and Polish students.

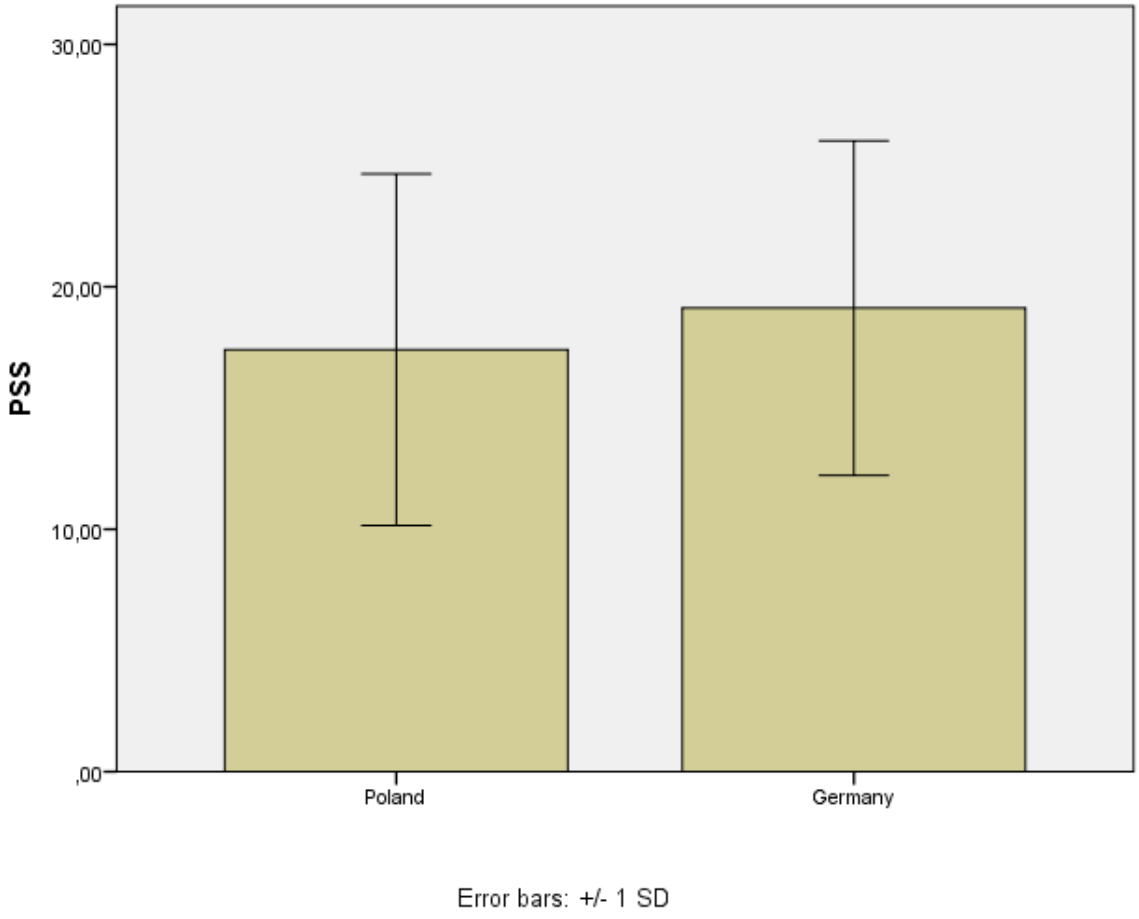
A T-test was used to assess this assumption. SOC was considered to be a dependent variable. Levene's test showed significant variance differences between the countries, $F=30.556$, $p<.05$. Thus, a T-test assuming the absence of equal variance was used. The results revealed, there were no statistically important dissimilarities in SOC among German and Polish students $t(1011.867)=1.220$, $p=.223$. The results were in line with the assumption.

- **Country and Perceived Stress Scale (PSS)**

14. Important dissimilarities may appear in PSS among German and Polish students.

A T-test was used to examine this assumption. PSS was considered to be a dependent variable. Levene's test showed no significant variance differences between the countries, $F=1.122$, $p=.290$. Thus, a T-test assuming equal variance was used. The T-test presented crucial differences in the stress perception between the countries, $t(2264)=-5.274$, $p<.05$. Thus, the outcomes confirmed the assumption. More specifically, the stress perception was found to be higher among the German students than among Polish students (Annex 7, Figure 12).

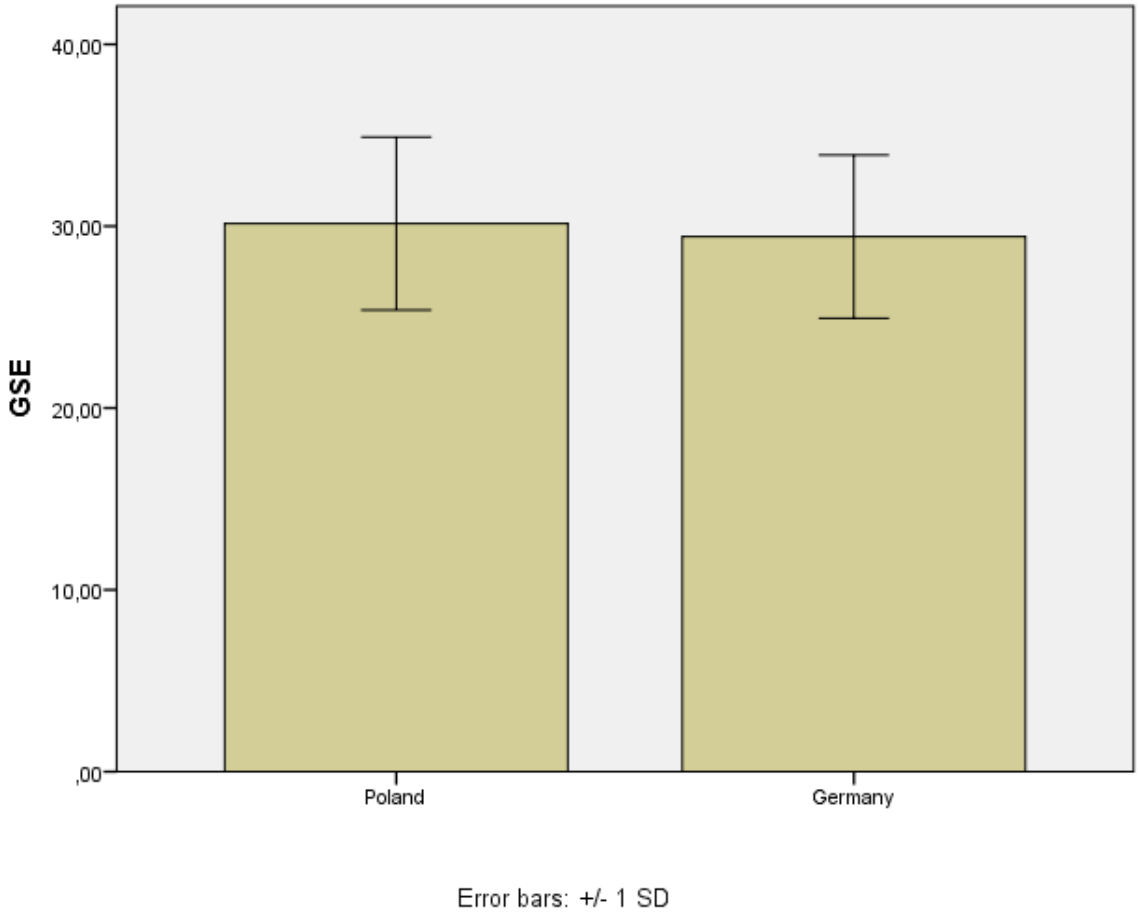
Figure 13



- **Country and General Self-Efficacy (GSE)**

15. Crucial dissimilarities may appear in GSE among German and Polish students. A T-test was applied to investigate this assumption. GSE was considered to be a dependent variable. Levene's test showed no significant variance differences between the countries, $F=1.126$, $p=.289$. Thus, a T-test assuming equal variance was used. The T-test supported the supposition by revealing important dissimilarities between the countries in terms of self-efficacy $t(2264)=3.360$, $p<.05$, $d=.1$. Polish students enjoyed better self-efficacy than their German counterparts (Annex 7, Figure 13).

Figure 14



- **Effect of interaction between religious indicators and country on SOC**

Many studies have shown no differences in the level of SOC across different countries. However, it is uncertain whether after considering the religious indicators—the strength of religious faith, church attendance, and private religious activity—SOC would still not differ in the cross-cultural context and whether the impact of the given religious indicators on SOC still remains the same across the German and Polish samples. Thus, it is important to examine whether there are any interaction effects between the given religious indicators and country on SOC. A two-way ANOVA was performed to check these interactions (null hypotheses). The absence of Polish Protestants was the reason for not considering interaction between denominations and country on SOC.

1. Interaction between the strength of religious faith and country on SOC.

H_0 There is no an interaction effect between the strength of religious faith and country on the SOC.

The *p*-value showed no interaction effect of SCSORF and country on SOC, F(1, 2262)=3.181, p=.075. This indicates that the influence of religious engagement on SOC did not differ across the countries. In both samples, the strength of religious faith showed an equal impact on SOC. The low-faith groups showed a weaker SOC than the high-faith groups across the countries. SOC level of less devout students from Germany was not significantly different from SOC level of less devout polish students. The same traits were observed in the case of more devout students across the countries.

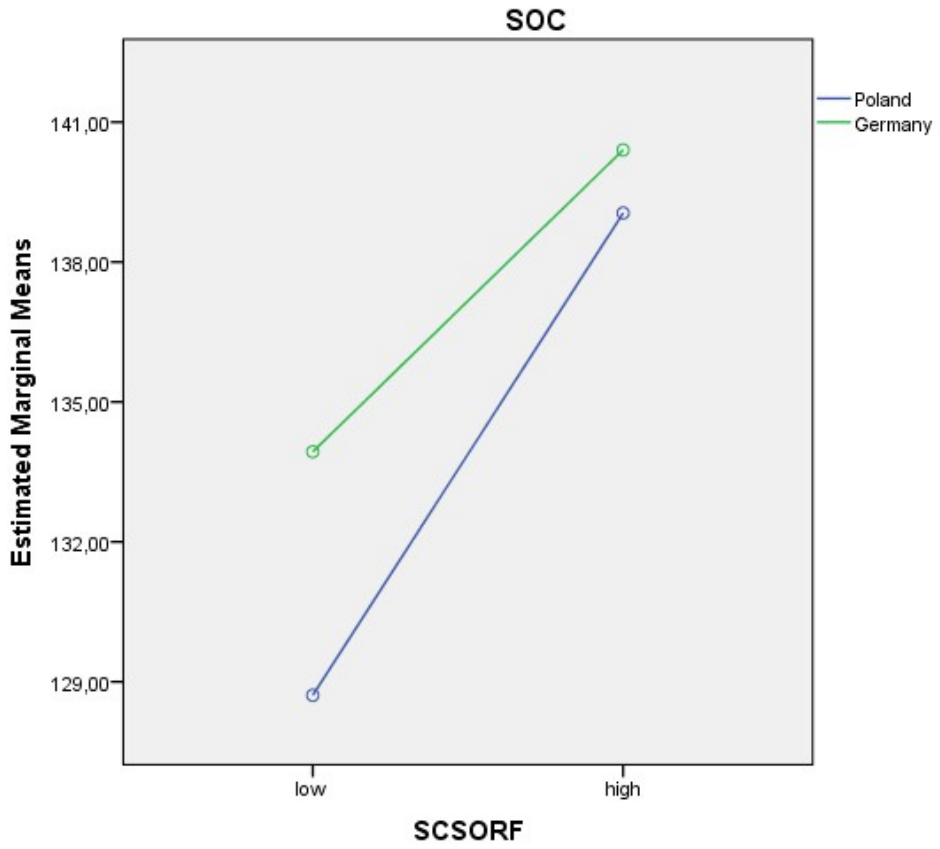
Although, the interaction effect was insignificant, it is necessary to calculate a statistical power of this result before rejecting the null hypothesis of no interaction effect (Rasch et al., 2010). According to the results, we could accept no interaction effect with 99% probability. In addition, there were two significant main effects—the strength of religious faith on SOC, F(1, 2262)=59.999, p<.05, η^2=.026 and country on SOC, F(1, 2262)=9.180, p<.05, η^2=.004. In both cases, the effect sizes were small (Annex 8).

Tests of Between-Subjects Effects

Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	30365,466[a]	3	10121,822	20,687	,000	,027
Intercept	30532450,856	1	30532450,856	62403,735	,000	,965
SCSORF_MEDIAN_SPLIT	29355,991	1	29355,991	59,999	,000	,026
Country	4491,517	1	4491,517	9,180	,002	,004
SCSORF_MEDIAN_SPLIT * Country	1556,275	1	1556,275	3,181	,075	,001
Error	1106735,096	2262	489,273			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				

Figure 15



The lines on the graph (Figure 15) did not interact with each other.

2. Interaction between church attendance and country on SOC.

H_0 There is no an interaction effect between church attendance and country on SOC.

The *p*-value showed a small but a significant interaction effect between church attendance and country on SOC, $F(1, 2262)=10.969$, $p<.05$, $\eta^2=.005$, which implies that the effect of ORA on SOC was not the same across the countries. H_0 can be rejected. In addition, there where two main effects—ORA on SOC, $F(1, 2262)=14.272$, $\eta^2=.006$, and country on SOC, $F(1, 2262)=56.772$, $\eta^2=.024$. Both showed a small effect size for the sample (Annex 8).

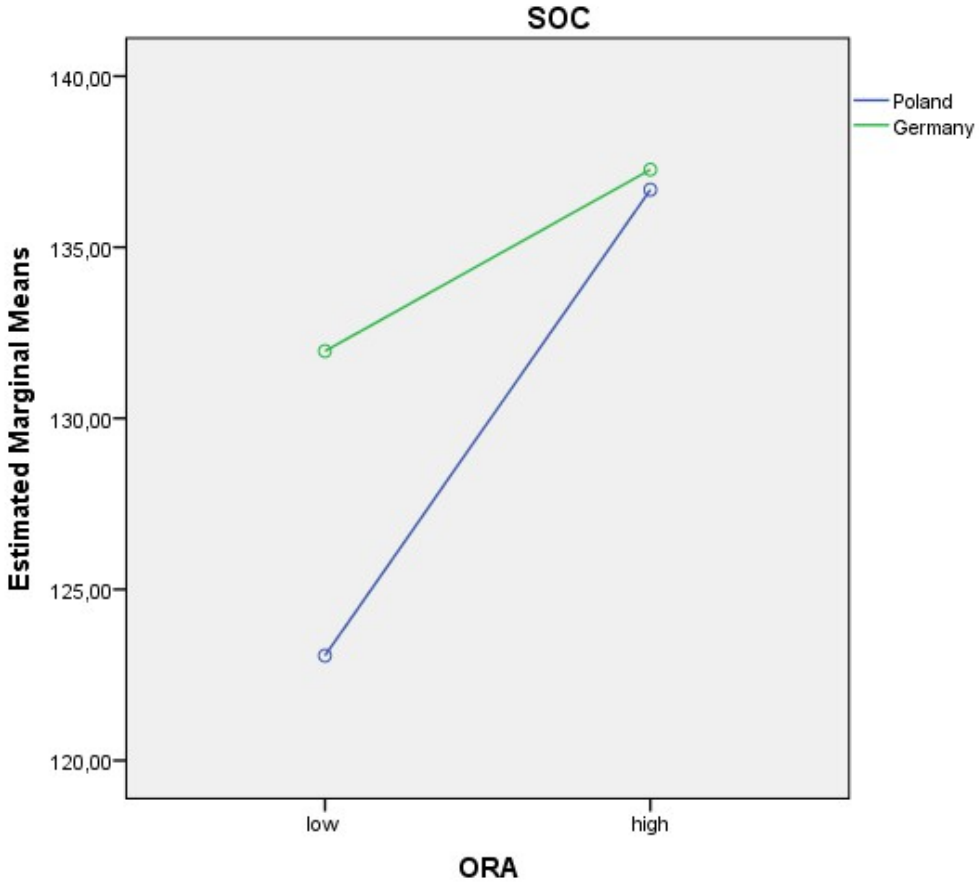
Tests of Between-Subjects Effects

Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	29399,725[a]	3	9799,908	20,012	,000	,026
Intercept	21739931,410	1	21739931,410	44394,410	,000	,952
ORA_MEDIAN_SPLIT	6988,821	1	6988,821	14,272	,000	,006
Country	27801,305	1	27801,305	56,772	,000	,024
ORA_MEDIAN_SPLIT * Country	5371,757	1	5371,757	10,969	,001	,005
Error	1107700,837	2262	489,700			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				

The graph below (Figure 16) presents the variables that interacted with each other. The lines come together in the high group of means (high SOC and high ORA). We see significant dissimilarities in the SOC level between Polish and German less-frequent churchgoers. These differences tended to be smaller among more-frequent churchgoers of the two countries. It means that the less frequent church attendance resulted in a significantly lower SOC level in the Polish sample than in the German sample. SOC value for the German sample definitely depended less on visits to public religious service than the SOC value of their Polish peers. It means that attending religious service had a bigger influence on the SOC of Polish students and caused more changes in its value than among German students. Country weakened a positive relation between church-attendance and the SOC more among the Poles than the Germans. In other words, living in Poland decreases the ORA's salutary impact on SOC prominently than living in Germany.

Figure 16


SOC
140,00
135,00
130,00
125,00
120,00
Estimated Marginal Means
low
high
ORA
Poland
Germany

3. Interaction between private religious activity and country on SOC.

H_0 There is no an interaction effect between private religious activity and country on SOC.

The *p*-value showed no interaction effect of the NORA and country on SOC, F(1, 2262)=1.817, p=0.178, which indicates that the effect of private religious practice on SOC was the same across the countries. In both samples private religious activities presented an equal impact on SOC. The low-groups showed a weaker SOC than the high-groups across the countries. The SOC level of German students less engaged in private religious activity was not significantly different from the SOC level of the same group of Polish students. Similar results were observed in the groups having a greater involvement in private religious activities. NORA had an equal influence on SOC across the countries (Annex 8).

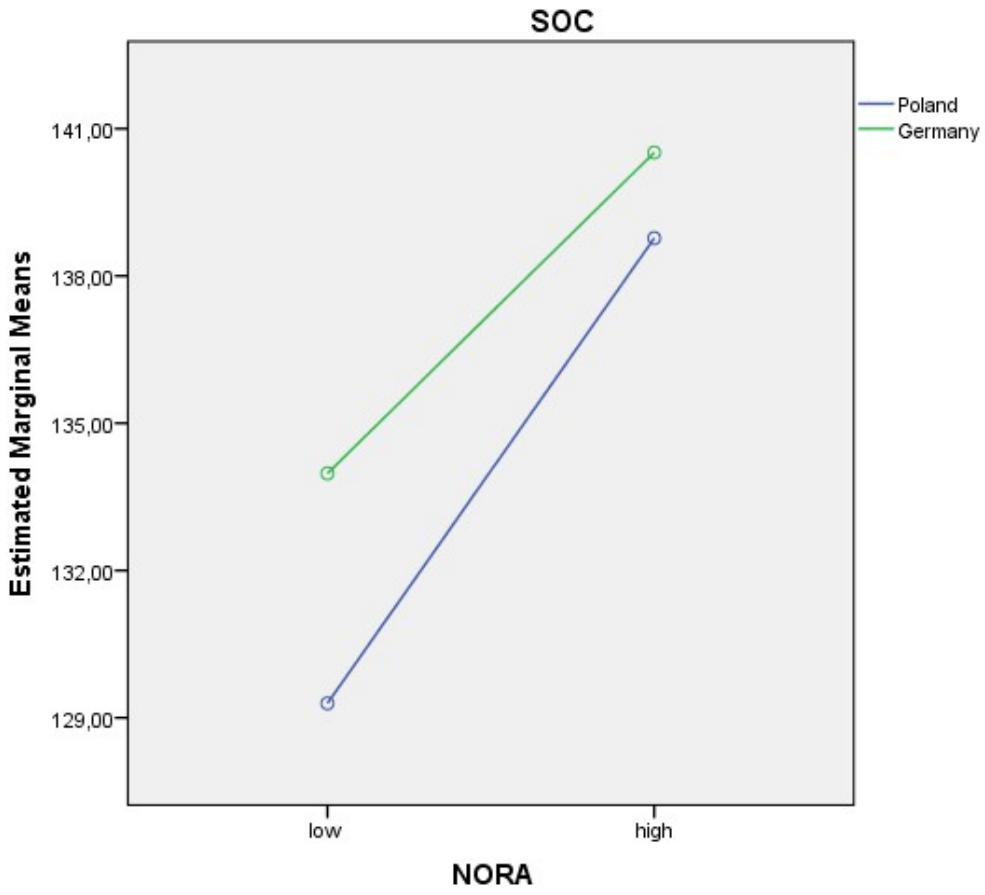
Although, the interaction effect was insignificant, it is necessary to calculate a statistical power of this result before rejecting the null hypothesis of no interaction effect (Rasch et al. 2010). According to the results, we could accept no interaction effect with 99% probability. In addition, there were two main effects—private religious practice on SOC, F(1, 2262)=8.677, $p<.05$, $\eta^2=.004$, and country on SOC, F(1, 2262)=53.829, $p<.05$, $\eta^2=.023$. Both with small effects size for the sample (Annex 8).

Tests of Between-Subjects Effects

Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	27553,750[a]	3	9184,583	18,724	,000	,024
Intercept	30317044,688	1	30317044,688	61806,455	,000	,965
NORA_MEAN_SPLIT	4256,222	1	4256,222	8,677	,003	,004
Country	26403,883	1	26403,883	53,829	,000	,023
NORA_MEAN_SPLIT * country	891,145	1	891,145	1,817	,178	,001
Error	1109546,812	2262	490,516			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				

Figure 17



As the graph (Figure17) shows, there was no interaction between the lines.

- **Effect of interaction between country and coping capacities on SOC.**

Earlier empirical studies suggest SOC does not differ across ethnicities but stress perception and self-efficacy do. At the same time, SOC is important for coping capacities. In order to gain more insights into the possible influence of coping capacities on SOC in a cross-cultural context, it is important to examine whether there are any interaction effects between them on SOC.

A two-way ANOVA was performed to check a possible interaction effect between coping capacities and country on SOC.

4. Interaction between the stress perception (PSS) and country on SOC.

H_0 There is no an interaction effect between the stress perception and country on the SOC.

The analysis showed a small but a significant interaction effect of PSS and country on SOC, $F(1, 2262)=7.272$, $p<.05$, $\eta^2=.003$. This indicated that the influence of the stress perception on SOC differed across the countries. H_0 can be rejected. In addition, there were two main effects —the stress perception on SOC, $F(1, 2262)=1099.029$, $p<.05$, $\eta^2=.327$, and country on SOC, $F(1, 2262)=20.089$, $\eta^2=.009$. The main effect of PSS on SOC showed a strong effect size for the sample (Annex 8).

Tests of Between-Subjects Effects

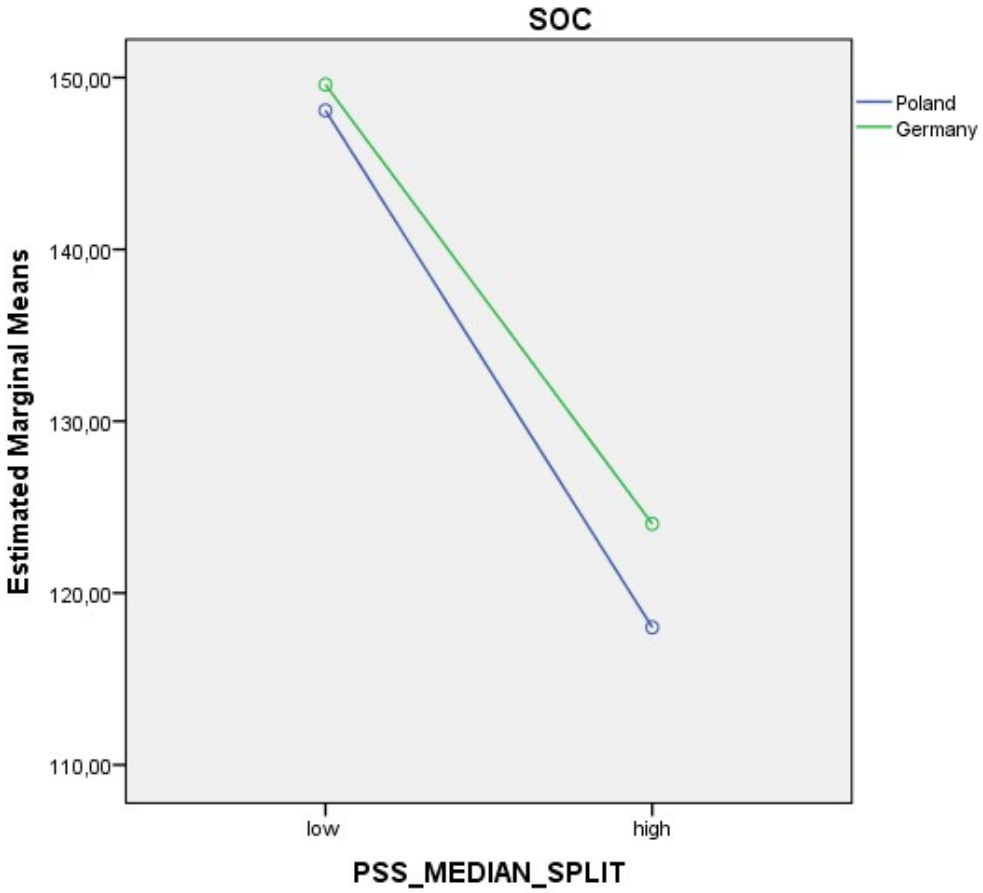
Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	407977,918[a]	3	135992,639	421,898	,000	,359
Intercept	33315730,923	1	33315730,923	103357,349	,000	,979
PSS_MEDIAN_SPLIT	354255,849	1	354255,849	1099,029	,000	,327
Country	6475,398	1	6475,398	20,089	,000	,009
PSS_MEDIAN_SPLIT * Country	2344,071	1	2344,071	7,272	,007	,003
Error	729122,644	2262	322,335			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				

The graph below (Figure 18) shows the means were very close together in the low-stress groups and moving away from each other in the high-stress groups. The impact of the stress perception on SOC was unequal across the countries. There were bigger dissimilarities in the SOC level between more-stressed students than between the less-stressed ones in the samples. Higher stress lowered the SOC of the Polish students more than it did in case of German students. Thus, the stress perception showed a stronger negative impact on the SOC of the Polish sample than in the German sample. Country reinforced the adverse effect of the stress perception on SOC among Poles more prominently than among the Germans. In other words, living in Poland increases the negative PSS influence on SOC more than living in Germany.

The reason why the line on the graph are almost parallel despite of the significant interaction, is connected with a very small size effect ($\eta^2=.003$, large sample N=2266).

Figure 18


SOC
150,00
140,00
130,00
120,00
110,00
Estimated Marginal Means
low
high
PSS_MEDIAN_SPLIT
Poland
Germany

5. Interaction between self-efficacy (GSE) and country on SOC.

H_0 There is no an interaction effect between self-efficacy and country on SOC.

The analysis showed a small but significant interaction effect of GSE and country on SOC, $F(1, 2262)=4.028$, $p<.05$, $\eta^2=.002$, indicating the influence of self-efficacy on SOC differed across the countries. We can be rejected H_0 (Annex 8).

In addition there were two main effects—self-efficacy on SOC, $F(1, 2262)=814.647$, $p<.05$, $\eta^2=.265$, and country on SOC, $F(1, 2262)=13.264$, $\eta^2=.006$. The effect size of self-efficacy on SOC was strong in this sample.

Tests of Between-Subjects Effects

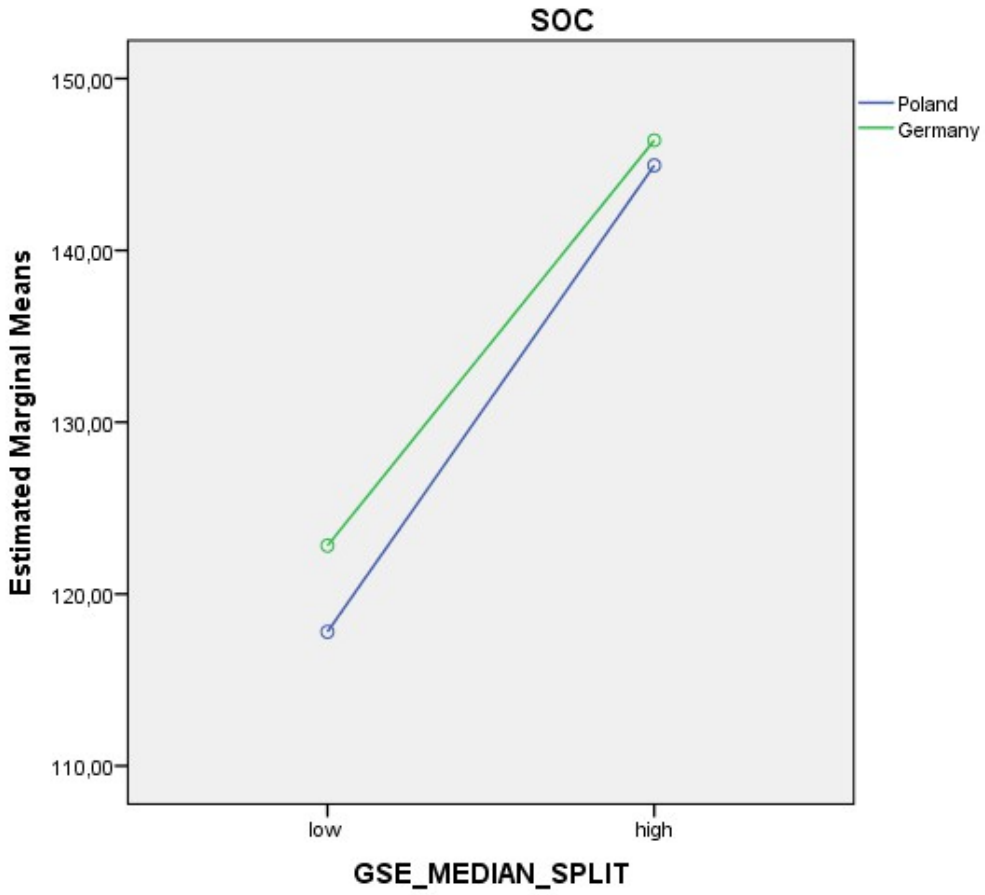
Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	339109,869[a]	3	113036,623	320,416	,000	,298
Intercept	31585492,469	1	31585492,469	89532,854	,000	,975
GSE_MEDIAN_SPLIT	287328,620	1	287328,620	814,467	,000	,265
Country	4679,167	1	4679,167	13,264	,000	,006
GSE_MEDIAN_SPLIT * Country	1420,991	1	1420,991	4,028	,045	,002
Error	797990,693	2262	352,781			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				

According to the graph below (Figure 19), the differences in mean among low-self-efficacy groups are bigger than among high-self-efficacy groups. The impact of self-efficacy on SOC was unequal across the countries. Students with a stronger self-efficacy did not differ so much from each other in terms of SOC across the countries as students with lower self-efficacy. The strength of self-efficacy caused greater changes in SOC scores among the Polish students than among the Germans. Low self-efficacy influenced the Polish students' SOC more than of their German peers. Country weakened the salutary influence of self-efficacy on the SOC of Polish students more markedly than of the German students. In other words, it can be said that living in Poland decreases the beneficial relation between self-efficacy and SOC more than living in Germany.

The reason why the line on the graph are almost parallel despite of the significant interaction, is connected with a very small size effect ($\eta^2=0.002$, large sample N=2266).

Figure 19


SOC
150,00
140,00
130,00
120,00
110,00
Estimated Marginal Means
low
high
GSE_MEDIAN_SPLIT
Poland
Germany

- **Contribution of macro-sociocultural GRRs to SOC**
  - **Regression for the whole sample**

To comprehend the significance of the given macro-sociocultural GRRs—the strength of religious faith, church attendance, private religious activity and country—for SOC, it is important to empirically explore their contribution to SOC. Denomination was not taken into consideration because of lack of Protestants in Poland. To this end, a stepwise multiple linear regression analysis was performed. Multiple linear regression is a measurement that tries to determine the strength of the relationship between a dependent variable $Y_i, i = 1, \dots, T$ $Y_i, i = 1, \dots, T$ and independent variables $X_{1i}, \dots, X_{ki} X_{1i}, \dots, X_{ki}$ (Backhaus et al., 2003).

Multiple linear regression makes several key assumptions. When these assumptions are not fulfilled, the results cannot be treated as trustworthy (Backhaus et al., 2003). First, the model was linear in its parameters. All dependent variables correlated weakly (under .2) but significantly ($p<.05$) with dependent variables. Second, the scatter-plot showed that the cluster of points was approximately the same in width around 0, thus the variance of the error term was constant for all the values of the independent (homoscedasticity). Third, there were no auto-correlation in the model, Durbin-Watson was 1.877 (Model Summary Table). Finally, multicollinearity was examined. The variance inflation factor (VIF) was VIF <5. It meant multicollinearity was not an issue in this study. All the assumptions were fulfilled. The list of the assumptions and their examinations are in Annex 9a.

The stepwise multiple linear regression checks were the best combination of independent variables to predict the dependent variables. Here, the strength of religious faith (SCSORF), organizational religious activity (ORA), non-organizational religious activity (NORA), and country were taken as independent variables, which SOC was considered a dependent variable.

At each step of the analysis, the independent variable that most strongly correlated with the SOC (Pearson's r) was incorporated into the model first. Based on the correlation table, the strength of religious faith (SCSORF) correlated with SOC more strongly (r=.135) It was followed by private religious activity (NORA r=.141), church attendance (ORA r=.157), and country which showed insignificant correlation (Annex 9a).

The table below ('Model Summary') provides an overview of the results. Primary interest has the R-squared (for this sample) and adjusted R-squared value (for population). In this case, R-squared and adjusted R-squared presented similar values. According to the data, approximately 3% of variability in SOC was accounted for by the given predictor variables,

and the predictive power of this model was significant, p<.05.

Additionally, the table showed changes in R^2 in each model after gradually adding the following independent variables—SCSORF F(1, 2264)=41.821, p<.05, NORA (1, 2263)=7.635, p<0.05, ORA F(1, 2262)=10.272, p<.05, and country F(1, 2261)=20.841, p<.05. As evident from the table below, approximately 3% of variability in SOC is accounted for by the given predictor variables, and the predictive power of this model is significant, p<.05. In the first step, SCSORF was entered into the model. The R^2 with this predictor in the model was .018. In the second step, a positive impact was seen in the model. The R^2 with both predictors (SCSORF and NORA) in the model was .021, gaining .003 in the R^2 value. It was reflected in the R^2 Change for that step. In the third step, ORA was added to the model. With these free predictors R^2 was .026, gaining .004 in the R^2 value. At the end, the R^2 value, together with country as a predictor, achieved .033, gaining .009.

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig	
1	,135[a]	,018	,018	22,20684	,018	41,821	1	2264	,000	
2	,146[b]	,021	,021	22,17436	,003	7,635	1	2263	,006	
3	,161[c]	,026	,025	22,12908	,004	10,272	1	2262	,001	
4	,186[d]	,035	,033	22,03266	,009	20,841	1	2261	,000	1,877

a. Predictors: (Constant), SCSORF

b. Predictors: (Constant), SCSORF, NORA

c. Predictors: (Constant), SCSORF, NORA, ORA

d. Predictors: (Constant), SCSORF, NORA, ORA, Country

e. Dependent Variable: SOC

The results show, SCSORF contributed the strongest to SOC, and was followed by country and ORA. NORA made the weakest contribution to SOC among the given religious indicators.

Lack of Protestants in Poland caused the removal of denomination from the model. In order to see how religious affiliations as well as religious indicators contribute to the SOC across the countries, two separate regressions were computed—one each for the German and Polish samples.

- **Regression for the German sample**

Here, religious indicators—SCSORF, ORA, NORA, and denomination such as Catholics, Protestants and Buddhists—were considered as independent variables, while SOC was treated as a dependent variable.

First of all, the model was linear in its parameters. All independent variables correlated weakly (under .2) but significantly ($p<.05$) with dependent variables. Second, the scatter-plot showed that the cluster of points was approximately the same in width around 0, thus the variance of the error term was constant for all the values of the independent (homoscedasticity). Third, there was no auto-correlation in the model, while Durbin-Watson was 1.881 ('Model Summary' Table). Finally, the multicollinearity was examined. The variance inflation factor (VIF) was VIF <5. It meant multicollinearity was not an issue in this study. All the assumptions were fulfilled. The list of the assumptions and their examinations are in Annex 9b.

Again, the independent variable that most strongly correlated with SOC was taken for regression first. Hence, the order was as followed: SCSORF ($r=.124$), NORA ($r=.133$), and ORA ($r=.157$). Religious groups were added to the model in the fourth step (Annex 9b). The table shows, approximately 3% of variability in SOC was accounted for by the given predictor variables, with the model having a significant predictive power, $p<0.05$. The table showed changes in R^2 in each model after gradually adding the following independent variables—SCSORF $F(1, 1621)=25.119$, $p<.05$, NORA $(1, 1620)=5.801$, $p<.05$, ORA $F(1, 1619)=11.398$, $p<.05$, and denomination $F(1, 1616)=3.458$, $p<.05$.

In the first step, the SCSORF entered into the model. The R^2 with this predictor in the model was .015. In the second step, a positive impact was seen in the model. The R^2 with both predictors (SCSORF and NORA) in the model was .019, gaining .004 in the R^2 value. It was reflected in the step's R^2 Change as well. In the third step, ORA was added to the model. With these free predictors R^2 was .026, gaining .007 in the R^2 value. At the end, the R^2 value, together with the religious affiliations as a predictor, achieved .032, gaining .006 (Annex 9b).

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig	
1	,124[a]	,015	,015	20,95161	,015	25,119	1	1621	,000	
2	,137[b]	,019	,018	20,92065	,004	5,801	1	1620	,016	
3	,160[c]	,026	,024	20,85383	,007	11,398	1	1619	,001	
4	,178[d]	,032	,028	20,80651	,006	3,458	3	1616	,016	1,881

a. Predictors: (Constant), SCSORF

b. Predictors: (Constant), SCSORF, NORA

c. Predictors: (Constant), SCSORF, NORA, ORA

d. Predictors: (Constant), SCSORF, NORA, ORA, Catholics, Protestants, Buddhists

e. Dependent Variable: SOC

The outcomes showed SCSORF was the strongest contributor to SOC, followed by ORA, and denomination. NORA was the weakest contributor to SOC in the German sample.

- **Regression for the Polish sample**

In this model, religious indicators—the strength of religious faith (SCSORF), church attendance (ORA), private religious activity (NORA), and denomination such as Catholics and Buddhists—were considered independent variables. SOC were considered as depended variable.

First, the model was linear in its parameters. All independent variables correlated weakly (.2) but significantly ($p<.05$) with dependent variables. Second, the scatter-plot showed that the cluster of points is approximately the same in width around 0, thus the variance of the error term was constant for all the values of the independent (homoscedasticity). Third, there were no auto-correlation in the model, Durbin-Watson was 1.979 ('Model Summary' Table). Finally, multicollinearity was examined. The variance inflation factor (VIF) was VIF <5. It means that multicollinearity was not an issue in this study. All the assumptions were fulfilled. The list of the assumptions and their examinations are in Annex 9c.

Here also, the independent variable that had the strongest correlation with the SOC was taken into the regression first. Therefore, the order was as followed—NORA ($r=.198$), SCSORF ($r=.205$), and ORA ($r=.220$). Religious groups (Catholics and Buddhists) were added to the model in the fourth step (Annex 9c).

According to the data, approximately 10% of variability in SOC is accounted for by the given predictor variables, and the predictive power of this model is significant, $p<.05$.

Additionally, the table showed changes in R^2 in each model after gradually adding the following independent variables—NORA $F(1, 641)=26.106$, $p<.05$, SCSORF $(1, 640)=5.253$, $p<.05$, ORA $F(1, 639)=4.676$, $p<.05$, and denomination $F(1, 637)=22.490$, $p<.05$.

In the first step, private religious activity (NORA) was entered into the model. The R^2 with this predictor in the model was .039. In the second step, a positive impact was noticed in the model. The R^2 with both predictors (NORA and SCSORF) in the model was .047, gaining . 008 in the R^2 value. It was reflected in the R^2 Change for that step. In the third step, ORA was added to the model. With these free predictors, R^2 was .054, it gained .007 in the R^2 value. At the end, the R^2 value together with denomination as a predictor achieved .116, gaining .062.

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig	
1	,198[a]	,039	,038	24,90050	,039	26,106	1	641	,000	
2	,217[b]	,047	,044	24,81830	,008	5,253	1	640	,022	
3	,232[c]	,054	,049	24,74733	,007	4,676	1	639	,031	
4	,341[d]	,116	,109	23,95483	,062	22,490	2	637	,000	1,979

a. Predictors: (Constant), NORA

b. Predictors: (Constant), NORA, SCSORF

c. Predictors: (Constant), NORA, SCSORF, ORA

d. Predictors: (Constant), NORA, SCSORF, ORA, Buddhists, Catholics

e. Dependent Variable: SOC

The results showed, denomination contributed the strongest to SOC, and was followed by private religious activity (NORA). The strength of religious faith (SCSORF) and church attendance (ORA) were the weakest contributors to SOC in the polish sample.

4. Discussion

Antonovsky defined a stressor as a demand made on a person to which she or he cannot immediately react. We differ to the extent to which we can cope with or respond to such events. This response (tension) may have negative, neutral, or salutary consequences. To deal with this tension and prevent it from leading to stress, we need GRRs, which can be in the form of a person, a group, or environment facilitating effective tension management (Antonovsky 1979).

The author presented not only ubiquitous stressors, but also omnipresent resources that we can use and reuse to cope with them. On the list of GRRs, the scholar also dealt with the macro socio-cultural levels by referring to Malinowski. He says that culture gives each of us our place in the world. We are given a language to communicate, a role set and a norm set, and a large world to fit in. On all the three levels—psychological, sociological, and institutional—demands are placed and so are the responses. But what happens when all these levels fail? Knowledge and science help us to obtain what we want, but are unable to always control chances, eliminate accidents, and provide an explanation for them. Therefore, religion, religious beliefs and rituals provide people an explanation for pain, loss, death, and sanctify human life through ethical behaviour (Malinowski 1931, Antonovsky 1979).

Accessibility of GRRs is a major determinant of a strong SOC. Religion belongs to one of them. However, there are only a few studies concerning religion and the SOC, the results of which focus on a clinical sample (most older adult), are heterogeneous and do not attract much attention to the complexity of religion (Gibson 2003, Tagay et al., 2006, Delgado 2007). Thus, the first aim of this research was to investigate whether religion with its varied aspects has a bearing on the SOC.

- **Religious indicators and SOC**

Three different aspects of religion were examined: strength of religious faith, church attendance, and private religious activity. First, I assumed that more devout students would enjoy a higher SOC than the less devout ones. The outcome supported the assumption by showing that the SOC level of the first group benefited more from the strength of religious faith than the SOC level of the second group.

The next supposition was that a frequent church attendance would serve to increase the SOC. The outcome also confirmed this. It showed that the students who go to church or visit other religious meetings less frequently present a lower SOC in comparison to the group of students who act the other way round.

According to the third assumption, students who devote themselves to private religious practice more often present a better SOC. The investigation revealed that the students who pray, meditate, or study the Bible more often enjoy a higher SOC than those doing them less often.

In assessing the outcomes, a clear distinction had to be made between religion and spirituality. The term 'religion' (Latin religare, to tie together, to bind fast) originally meant expressing proper piety. It was later used to designate a certain belief system and set of practices. Durkheim (1915) proposed the following definition of religion:_"religion is a unified system of beliefs and practices relative to sacred things, beliefs and practices which unite into one single moral community".

The term 'spirituality' (Latin spiritus, spirare, to breathe or blow) connotes divine reality that surrounds us, and this reality is invisible like the air we breathe.

People generally use the word 'spirituality' to dissociate themselves from the institutional meaning of religion. Some people express their faith through an integrated set of rituals (church attendance, private prayers), some may not have such a need. One can be spiritual without taking part in rituals or societies, and it is better defined as the meaning gained from life experiences (Grassie 2008).

In the literature review where a positive connection between SOC and religion was found, Gibson (2003) and Delgado (2007) stressed that they focused on the spiritual and transcendental aspects of religion, understood as the quality of a person, search of meaning, a sense of connection with others, a transcendence of self. Only Zarzycka and Rydz (2014) focused on the multidimensional aspect of religion. By reference to them, not only spirituality but also private and public religious practices are important for SOC. The current study supports Zarzycka and Rydz (2014) by showing that not only the strength of religious faith and private religious activity not necessarily connected with institutional aspect of religion, but also church attendance, too, was significant for SOC. However, more research connecting these two approaches to religious involvement (spiritual and institutional) is needed for a more comprehensive understating.

Moreover, it is needed to focused more on young people. The past studies concentrated on older adults (Delgado 2007, Gibson 2003). This study showed significance of religion for young people.

The following part of the study focused on a relationship between denomination (also non-religious) and SOC.

- **Denomination (including Non-religious) and SOC**

Denomination is an undeniable a part of a culture we grow up in. Thus, it belongs to macro-sociocultural factors that contribute to SOC. However, to the best of my knowledge, there have been no previous studies on denomination and SOC. Therefore, the next goal of this study was to throw some light on this unexplored area. Non-religious students were taken into consideration here to check potential dissimilarities in SOC between them and religious students.

The analysis showed statistically important differences in a value of SOC across different denominations and the same supported the assumption that there may be some differences in the SOC across varied religious affiliations. Here, Buddhists showed the strongest SOC level. Additionally, students who claimed not to be followers of any religion presented the poorest SOC in comparison to the religious followers. Lack of previous studies on this subject made comparison difficult. Hence, more future studies are essential.

The study next focused on SOC across countries.

- **Country and SOC**

Antonovsky wrote a lot on the role of culture in salutogenesis. From the description of the construct, it is known that cultural context contributes to SOC. Additionally, the character of the concept is universal. Thus, it should not differ across countries.

A small number of researches have compared SOC values across different ethnic groups. Most of them showed SOC stays the same in cross-cultural context (Bowman 1996, Hood et al. 1996, Gibson 2003). Nonetheless, Braun-Lewenshon and Sagy (2011) presented different results. It gave a reason for examining this field.

With regard to the current outcomes, there were no statistically important dissimilarities in SOC values among German and Polish students. This supported the supposition and is in the line with some other studies (Bowman 1996, Hood et al. 1996, Gibson 2003). It is, however, still important to carry out more comprehensive studies in this field in order to enhance the knowledge about SOC in the context of ethnicity.

The current study shows German and Polish young people do not significantly differ in SOC. However, it was uncertain whether after taking into account the religious indicators SOC value would still be similar across these two countries.

- **Religious indicators and SOC in cross-cultural context**

The statistical analysis (T-tests) presented important differences in SOC level in the context of religious indicators in the entire sample, and no differences in SOC level between the samples. Would SOC still not differ across the countries after the strength of religious faith, church attendance, and private religious activity were taken into account?

According to the results, SOC level of less devout students from Germany was not significantly different from that of the less devout Polish students. The same picture was seen in the groups of more devout students across both samples. The strength of religious faith presented an equal influence on SOC across the countries.

A similar situation was observed with private religious activity. The SOC level of German students less engaged in private religious activity was not significantly different from SOC level of Polish students similarly less engaged in private religious activity. The same was true of in the case of students more engaged in private religious activities. The dissimilarities in SOC levels between students with greater or less engagement in private religious activity depended on the frequency of private religious activity and were equal across the countries.

From all three religious indicators, only church attendance interacted with country on SOC. The outcomes show there were significant dissimilarities in SOC levels of between less-frequent Polish and German churchgoers. These differences tended to be smaller among more-frequent churchgoers and bigger among less-frequent visitors in the two countries. Polish less-frequent churchgoers presented a significantly lower SOC value than their German counterparts. It means the attendance of public religious service had a bigger influence on SOC among Polish than among German students. Country weakened a positive relation between church-attendance and SOC more among the Poles than the Germans. In other words, living in Poland decreases ORA's salutary impact on SOC prominently than living in Germany.

We could draw a conclusion that church attendance (institutional aspect of religion) might be more pivotal for the health of young polish people than for their German peers. As opposed to spirituality (the strength of religious faith and private religious activity), the institutional aspect of religion was connected to distress-deterrent (mediating) role of religion in coping with stress. Here, religion affects health through contact with like-minded people in religious communities providing better social support (Krause & Tran 1989, Anson et al. 1990, Tix & Frazier 2005, Koenig & Futterman 1995, Belavich 1995).

In our case, where the Polish less-frequent churchgoers presented a weaker SOC than their German counterparts, we could conclude that lack of social support and fewer contacts with

like-minded people might significantly reduce the chances of maintaining good health among young Poles than among young Germans. It could be linked to the varied character of Polish and German society. It will be discussed later. Now, we turn to the next research problem.

- **Contribution of religious indicators, country, and denomination to SOC**

For a deeper understanding of the given GRRs for SOC, it was important to take a look at the contribution they made to SOC. The results indicate the strength of religious faith contributed the most to SOC, and was followed by country, and church attendance (ORA). Private religious activity, in the entire sample, made the weakest contribution to the SOC. Approximately 3% of variability in the SOC was accounted for by the given predictor variables.

Lack of Protestants in Poland led to the removal of denomination from the regression for the whole sample. Two extra separated regressions for the German and Polish samples were carried out to find out how religious affiliations contributed to SOC.

Approximately 3% of variability in SOC was accounted for by the given predictor variables in the German sample in this model having significant predictive power. The outcomes revealed the strength of religious faith contributed the maximum to SOC, followed by church attendance, and denomination (Catholics, Protestants, Buddhists). Private religious activity made the weakest contribution to SOC in the German sample.

In the Polish sample, approximately 10% of variability in SOC was accounted for by the given predictor variables in the model having significant predictive power. Here, denomination (Catholics and Buddhists) contributed to SOC in the strongest manner, followed by private religious activity. The strength of religious faith and church attendance contributed to SOC in the weakest manner in the Polish sample.

These two regressions showed that there were differences in the strength of the inputs of the given religious indicators and denomination to SOC across the samples. While the strength of religious faith and church attendance seemed to be the strongest predictors of changes in a SOC value in the German sample, their contribution to the Polish SOC was the weakest. Whereas denomination and private religious activity showed the strongest prediction of changes in SOC of the Polish sample, their contribution to a SOC level in the German sample was the weakest. In addition, the religious indicators explained a small proportion of the variance in a SOC level. This proportion was even lower in the german sample than in the polish sample. A possible interpretation will be discussed later.

The input of the given predictors to SOC was varied across the countries. This was a good

first step towards further research into the forecasting power of macro sociocultural GRRs for SOC in a cross-cultural context.

The next aim of this study was to examine potential differences in the coping capacities in the context of the given religious indicators.

- **Religious indicators and coping capacities**

The research review showed an impressive number of studies on this subject. They considered different aspects of religion—intrinsic and extrinsic religiousness, religious coping, church-based social support, religious practices, and religious devotion (Park & Cohen 1990, Belavich 1995, Krause 2001). Nonetheless, only some studies were done on young people focusing mostly on distress, depression, and daily problems (Lee 2007, Belavich 1995, Loyed et al. 1992, Park & Cohen 1990). An exploration of the effect of varied religious dimensions on general stress among students was neglected. Therefore, it became another goal of this study.

Considering the studies mentioned above, I assumed that more devout students would be less stressed than the less devout ones. The results supported the assumption and were confirmed by previous research showing more religiously committed students experienced a lower degree of stress than the less committed ones (Johnson & Larson 1998), where a high level of religiosity was associated with low levels of psychological distress (Lee 2007), where religious engagement buffered stress (Wheaton 1985 & Williams 1991), and where the importance of religious coping for students in dealing with daily hassles was proved (Belavich 1995).

I also assumed that frequent churchgoers and those who pray a lot privately would show lower stress than the opposite group. Current results show that students who attend church or other religious meeting frequently perceive less stress than their colleagues on the opposite pole. Moreover, students who pray, meditate, or read the Bible more often scored less on the stress scale in comparison to those doing them less frequently. The outcomes supported the assumption. Earlier studies found that frequent church attendance or membership in a religious community lowered depression (Loyd et al. 1992, Ellison 1997), reduces psychological distress (Levin et al. 1996) and limits symptoms of recent life events (Anson et al. 1990). In fact, being a part of a social group is so crucial for optimum human development that Maslow (1968) put love and belongingness into his hierarchy of needs.

Early research concerning such predictors of well-being as self-esteem, life-satisfaction or self-efficacy presented a positive connection between these variables and religion (Krause

2009, Ross et al. 2008, Hadaway & Roof 1978, Ellison 1991, Ringdal 1996, Albani et al. 2004, Adegbola 2007). However, studies dealing explicitly with self-efficacy were carried out in a clinical sample (Adegbola 2007: individuals with sickle-cell disease) and among the elderly (Albania et al. 2004). They drew attention to the need to pay greater attention to young people. Thus, the next aim of the thesis was to investigate how varied aspects of religion correspond with self-efficacy among students.

I assumed that more devout students would enjoy better self-efficacy than those less devout. The data supported the assumption and found a confirmation in a group of previous studies, where intrinsic religious faith reinforced a feeling of self-worth (Laurencelle et al. 2002), well-being (Reed 1986), and where a close personal relationship with God was associated with greater self-esteem (Krause 2009). Current data is also in accordance with research revealing that spirituality is positively connected with self-efficacy (Albania et al. 2004, Adegbola 2007).

Moreover, church attendance and private religious activity were significant for self-efficacy. Similarly, both suppositions were in line with the results and with most past research presenting a positive correlation between church attendance and life satisfaction (Hadaway & Roof 1978, Ellison 1991, Ringdal 1996, Levin & Markides 1988). The findings concerning organizational religious activity supported the suggestion that belonging to a web of social relationship improves self-worth (Baumeister & Leary 1995). Only Krause (2009) argued that support from fellow church members had little to with self-esteem. He assumed that while a feeling of being close to God was associated with greater self-esteem, getting support from church members was not. He suggested (quoted Kirkpatrick 2005) that religious people believe in God's unconditional love. Although human beings may also be a source of love and support, this love seems to be less unconditional.

To sum up, in terms of the stress perception, current outcomes indicated that both spiritual and institutional aspects of religion were important to cope with stress among young people. This study examined only three types of religious indicators. Thus, it still can be argued that certain types of religious involvement may be salutary for young people's health while others not. Or, that some forms of religious involvement might be positive for health of young people to deal with stress at some level. I did not consider a curvilinear effect like a U-shape or an inverse U-shape effect of religion on health (Schnittker 2001, Eliassen et al. 2005, Ross 1990). Hence, there should be greater focus on this subject in future research with regard to young people.

The next focus of this study was the coping capacities across varied religious affiliations.

- **Denomination (including Non-religious) and coping capacities**

Studies on coping with stress across different denominations presented inconsistent results (Kolchakian & Sears 1999, Park & Cohen 1990, Tix et al. 1998).

In the current research, some differences among various religious affiliations have been assumed. Here, Buddhists showed the weakest stress perception, which significantly differed from those of Catholics, Protestants, and non-religious groups. The last group presented the strongest stress perception. There were no crucial dissimilarities in PSS between Catholics and Protestants, Catholics and non-religious, and Protestants and non-religious segments. Apart from Buddhists, the current outcomes did not reveal any crucial dissimilarities in the PSS between Catholics and Protestants, confirming the findings of Kolchakian & Sears (1999), and Park & Cohen (1990). Nonetheless, they are not in line with the past research of Tix and colleagues (1998), who found differences in the stress coping capabilities of Protestants and Catholics.

At the same time, the outcomes are the opposite of the empirical evidence of Krause and colleagues (2001), who claimed that members of non-religious communities were more exposed to stress caused by the RLE than members of religious communities.

Lack of empirical evidence concerning self-efficacy across different religious affiliations necessitated the investigation of these two variables in the present study. I assumed the existence of differences in the value of self-efficacy across religious affiliations. Besides, this time, Buddhists broke ranks. They significantly differed from the other denominations and from non-religious students, revealing the highest self-efficacy level. Catholics, Protestants and non-practising students did not differ from each other.

In interpreting these outcomes, we should turn to Mindfulness[15] (or non-judgemental moment-to-moment awareness). It is most frequently associated with Buddhist meditative practices. A growing body of research suggests that meditation may be effective in reducing stress, depression, and anxiety (Kabat-Zinn et al. 1993, Astin 1997, Shapiro et al. 1998).

For example, Shapiro and co-scholars (1998) examined the short-term effects of an eight-week meditation on medical students during an exam period. According to the findings, meditation reduced self-reported states of anxiety and psychological distress, including depression, and increased empathy. Kabat-Zinn (1993) found that mindfulness improved self-efficacy to approach stressful events as challenges instead of as threats.

15 Mindfulness meditation is a formal discipline that attempts to create greater awareness and, consequently, greater insight in the practitioner. It goes beyond a closed concentrative one-pointed meditation by introducing openness to all experiences. Mindfulness is a conscious moment-to-moment awareness, cultivated by systematically paying attention to one's purpose (Kabat-Zinn 1990.)

Considering the empirical evidence on mindfulness, it might be assumed that Buddhists or those who practice meditation may better cope with stress or challenges in life. It could be the reason why in this study, too, Buddhists presented the lowest stress perception and the strongest self-efficacy. However, more research is needed in this field.

The next aim of this study was to consider the potential dissimilarities in the coping capacities in a cross-cultural context.

- **Country and coping capacities**

Antonovsky claimed that stressors were differently distributed and perceived by various cultures (Antonovsky 1979, 1987). But there are only a few pieces of empirical evidence concerning different type of stress carried out in a cross-cultural context.

The next purpose of the study was to deepen the understanding of stress perception in different countries. The results revealed differences in stress scores among German and Polish students. The first group seems to be more stressed than the second. The data not only confirmed the supposition but was also in accordance with past studies that had found dissimilarities in stress perception in various countries (Daniels 2004, the OECD Study 2011).

Heterogeneous results from a small number of investigations concerning self-efficacy across different nations gave rise to the need for more research in this field. Thus, the next aim of the thesis is to concentrate on these two variables. According to the results, German students presented lower self-efficacy compared to Polish students. These differences found support in studies by Scholz and colleagues (2002), and Caprara and co-scholars (2008), where self-efficacy was found to vary between countries. However, they are not in the line with empirical evidence provided by Luszczynska and Gutierrez-Dona (2005).

The next goal of this study tried to answer the question whether the SOC level differed across countries after considering the given coping capacities.

- **Coping capacities and SOC in cross-cultural context**

According to previous empirical works, the SOC does not differ across ethnicities, but stress perception and self-efficacy do (Bowman 1996, Hood et al. 1996, Gibson 2003, Daniels 2004, OECD study 2011, Braun-Lewensohn & Sagy 2011, Scholz et al. 2002, Caprara et al. 2008). Besides, the SOC is important for these coping capacities (Pallant & Lae 2002, Smith et al. 1997, Amirkhan & Greaves 2003, Smith & Meyers 1997).

This study has already shown the dissimilarities in the stress perception and self-efficacy of the German and Polish samples. At the same time, both samples had a similar SOC score.

This raised the question about the possible influence of coping capacities on SOC in a cross-cultural context. The outcomes showed the impact of the stress perception on SOC was unequal across Germany and Poland. Higher stress perception lowered SOC of Polish students significantly more than the higher stress perception of German students. Less stressed groups did not differ so much from each other across the samples like the more stressed groups. Hoverer, in the less stressed group, too, the Poles scored less on SOC than the Germans. Thus, the stress perception presented a stronger negative impact on SOC of the Polish sample than on that of the German.

In addition, the impact of self-efficacy on SOC was unequal across the countries. Polish students with lower self-efficacy scored significantly less SOC than their German peers with lower self-efficacy. The students with stronger self-efficacy did not differ so much from each other in terms of SOC across the countries. However, higher self-efficacy Poles also presented lower SOC than higher self-efficacy Germans. Self-efficacy, thus, had a greater positive impact on SOC of the German sample than on the Polish sample. Country weakened the salutary influence of self-efficacy on SOC of Polish students more markedly than of the German students. In other words, it can be said that living in Poland decreases the beneficial relation between self-efficacy and SOC more than living in Germany.

These results revealed striking differences between the countries. T-test, which considered only the influence of ethnicities on SOC, was not significant. Simultaneously, there were crucial dissimilarities in the stress perception and self-efficacy across the countries. Poles presented less stress and better self-efficacy than their German peers. After considering SOC under the impact of coping capacities across the countries, it appears that there are more dissimilarities between the two samples. Not only are there differences in coping with stress between the samples (T-test) but also dissimilarities in how they impacted SOC of the samples. Although, Poles scored generally weaker on the stress scale than Germans, the influence of the PSS on their SOC was negatively stronger than SOC in the German sample. The stress perception lowered SOC of the Polish students more than that of the German students, and this impact was stronger in the high-stressed groups than in the less stressed groups.

Moreover, Poles presented better self-efficacy in general. However, the influence of the GSE on SOC was positively stronger among Germans than among their Polish peers. Germans presented a better SOC in the low-self-efficacy group and in the high-self-efficacy group compared to the Polish sample. Thus, the influence of GSE on SOC was positively stronger in case of the Germans than the Poles, especially in the group of low-self-efficacy students.

Living in Poland decreases the beneficial relation between self-efficacy and SOC more than living in Germany.

It may be assumed that, though Polish students are less stressed than German students, the stress perception impacts their SOC more negatively than SOC of their German colleagues. And, although they have a better self-efficacy than the Germans, this factor has a greater beneficial influence on SOC among the German students than among the Polish students. It might be assume that the stress perception and self-efficacy impact health of German students in a different way than health of polish students. It means also that SOC also differs across ethnicities when other factors are included.

Although, the interactions were significant, their effect sizes were very small (which is common in large samples). It is the reason why the slopes of the interactions were almost parallel.

In this study, a socio-demographic questionnaire was used in order to gather more information about the samples. The questionnaire inquired about age, gender, migrations (place of birth, place of residence), personal status (having own family, having a partner), family (parents' education level, siblings, divorce) and social network. It is important for future research to consider more socio-demographic information in order to select more homogeneous sample.

- **Research problems summing-up**

Coming back to the research problem to sum up, it can be said that this empirical evidence proves the importance of spirituality and religion for SOC, and for the coping capacities of young people. Present study has shown that students with greater religious engagements scored high on SOC, self-efficacy, and low on the stress perception scale. The strength of religious faith presented the strongest forecasting power of changes in a SOC value from given religious indicators. Church attendance and private religious activity were the weakest. Country was more important in this contribution than the organizational and non-organisational religious activities.

These statements have some limitations, however. The breakdown of the samples has revealed the differing character of the German and Polish samples. This raised the question about the extent to which the outcomes, based on the complete sample, can be generalized about young populations and their health.

First, the breakdown of the German and the Polish samples delivered some interesting information about denomination characteristic and varied attitudes towards religion across the two countries. The Polish sample seemed to be more homogeneous when it came to religious

affiliations. The majority of young people declared themselves to be Catholic. It is in line with Polish statistics that tell us Catholics make up more than 90% of the country's population (Rocznik statystyczny ISKK & GUS, 2014). In Germany, we had more evangelic than Catholic respondents. However, the number of Protestants and Catholics in Germany is more or less the same—24 million Catholics and 23 million Protestants—but differently distributed. North and East Germany is more Protestant, while South and West Germany is more Catholic (REMID, 2011).

And because of lack of Protestants in Poland, it was not possible to investigate the effects of interaction between the denomination and the country on SOC. However, the regression analyse for separate samples showed the differences in contribution of religious affiliation to changes in an SOC level. For the Polish sample, denomination contributed to SOC in the strongest manner. It was not the case in the German sample, in which it had the third place after the strength of religious faith and church attendance. Moreover, the rest of the given religious indicators contributed differently to SOC scores of the two countries. While the strength of religious faith followed by church attendance turned out to be the strongest input for SOC scores in the German sample, these two religious indicators were weak contributes to the Polish SOC.

Secondly, the attitude towards religion clearly differed between the Germans and Poles. The sample analyses showed that, compared to the Germans, the Poles were generally more devout and frequent churchgoers who also practised at home. However, the results showed that of all the religious indicators such as the strength of religious faith, church attendance and private religious activity, only the impact of attending public religious service on SOC differed in the two countries. Less-frequent churchgoers from Poland scored significantly lower SOC than a similar group in the German sample. In the groups of more-frequent churchgoers, the dissimilarities were not so essential.

I concluded that church attendance and connected with it social support are more pivotal for the health of young polish people than for their German peers. Lack of social support and fewer contacts with like-minded people might significantly reduce the chances of maintaining good health among young Poles than among young Germans.

These outcomes reveal how varied is the influence of church attendance and religious affiliation on health of young people across Germany and Poland. It could be link to the sociocultural differences these countries.

By reference to Pickel (2014), the number of non-religious Germans has been steadily increasing sine 1970. This number is even bigger than the number of church members in some

federal territories in Germany. Not belonging to any denomination is not stigmatized. Non-religious do not need to explain their own choices. The transition from a church member into a non-believer is not a turning point in life for most Germans. Non-religious are not excluded from the secular german society. Thus, being a church member or not has a marginal meaning in the german modern society. According to Pickel, only a small part of individuals unaffiliated with any religion were religious brought up (28% West Germany, 12% East Germany). We can see the secularisation has started for some time.

Additionally, Germany has been seen as a popular country to immigrate. Thus, its religious-mix is bigger than that of Poland (REMID, 2014). Germany is not dominated by one type of religion. Therefore, the impact of religious affiliation on SOC (also health) is definitely smaller than in Poland.

The situation in Poland is complete different. According to Tyrala (2013), an initiator of research on the non-religious minority in modern Poland, it is easier to remove God from one's own mind than from the social space. In Poland, the relation between politics and Church is very strong. It influences Catholic Polish society, makes it strongly religious. Therefore, the scholar compared becoming a non-religious to a kind of conversion. Most of the non-religious respondents in his research came from Catholic families, were brought up in the Catholic faith, and the process of their drift from the Catholic faith started before they turned nineteen (the majority of the respondents was between 16 to 29). This transition was a crucial turning point in their biographies, and caused changes on two levels—on a social level and on a psychological level.

By reference to Tyrala, the changes on the psychological level bring always a relief from the ideological straight jacket. The changes on the social level are not so positive any more. Non-religious are confronted with strongly catholic social space of this country. Their friends and families are still catholic, thus there are forced to explain their choices on and on. They has to still celebrate catholic holidays with their families. They get less social support and are stigmatized for converting into a non-believer. Hence, stigma and lack of social support from like-minded people might be a reason why less-frequent Polish churchgoers scored significantly lower in SOC than their German peers.

The meaning of religious affiliation in the polish society has been reflected in the regressions. The impact of denomination on SOC was definitely stronger in the polish sample (religious country) than in the German sample (secular country).

These results is only a humble beginning of more comprehensive research concerning health of young people across religious and secular countries

Third, when it comes to perception and distribution of coping capacities across ethnicities, it can be said these two countries differed in matters of the stress perception and self-efficacy. More interestingly, the impact of the given coping capacities on SOC was also unequal in the two countries. The country factor reinforced the adverse relation between stress perception and SOC more strongly among the Poles than the Germans. In other words, living in Poland increases the negative PSS influence on SOC more than in Germany. The results show young Poles are less stressed than their German peers. However, it may be concluded that young Poles might have greater difficulties in maintaining good health in more challenging situations than young Germans.

In addition, country weakened the salutary influence of self-efficacy on SOC among polish students more than among German students. In other words, living in Poland decreases the beneficial relation between self-efficacy and SOC more than living in Germany. Young Poles presented better self-efficacy than young Germans. But it may be concluded that the salutary impact of self-efficacy on maintaining good health among Polish students is weaker than among German students.

These outcomes are only a humble beginning showing that stress perception and coping capacities are not only variedly distributed across cultural but they also impact health differently. More complex research is needed in this subject.

Before closing the discussion, it is important to mention an early work by Antonovsky (1960), *The Social Meaning of Discrimination.* A meaningful part of this paper refers to the so-called "*cultural equipment*". Describing cultural equipment, the author wrote that young people needed to grow up in a culture that supports their development and supplies them with success models they can aspirate to, and that this culture provides tools (equipment) to reach these goals. Reaching those goals and mastering challenges in life play an essential role in maintaining good health. The current study sheds some light on how European cultures can differ from one another, and how that affects attitudes towards religion and coping capacities, and, thus, the cultural equipment that keeps us healthy.

5. Limitations and implications for future research

Though this study arrived at some striking results, it has some limitations, and suggestions should be given for future research.

The first weakness is the sample's gender distribution—dominance of women (72%) over men (28%). The second limitation is lack of Protestants among Poles, and a small group of Buddhists, especially in Poland. Thirdly, although the participating students were asked

questions specific to their socio-demographic characteristics, it was not within the scope of this research to take all of them into consideration. Another limitation concerned generalizability. The results relate only to young people (19–30 years) and cannot be applied to middle adult and older populations. It is also important to stress that this study does not assess the long-term effect of influence of religion on the SOC.

For a greater understating of the present results, it is suggested that future studies compare different aspects of religion with the salutogenic construct among various age groups over time. In addition, the distinction between spirituality and religion needs to be stressed. Again, it would be interesting to see how the three SOC components (comprehensibility, manageability and meaningfulness) individually correspond to religion's multidimensionality. Future research is called for to explore whether other socio-demographic factors impact the connection between the SOC and religion.

More comprehensive studies are needed in order to examine the relation between the various dimensions of religion and the SOC in a cross-cultural context.

Finally, the present research has created the need for greater investigation focused on coping capacities in the ethnicity context.

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Annex

Annex 1: The sample

Country

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Germany	1623	71,6	71,6	71,6
	Poland	643	28,4	28,4	100,0
	Total	2266	100,0	100,0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	men	592	26,1	26,1	26,1
	women	1674	73,9	73,9	100,0
	Total	2266	100,0	100,0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19	52	2,3	2,3	2,3
	20	213	9,4	9,4	11,7
	21	305	13,5	13,5	25,2
	22	381	16,8	16,8	42,0
	23	379	16,7	16,7	58,7
	24	290	12,8	12,8	71,5
	25	236	10,4	10,4	81,9
	26	120	5,3	5,3	87,2
	27	89	3,9	3,9	91,1
	28	61	2,7	2,7	93,8
	29	74	3,3	3,3	97,1
	30	66	2,9	2,9	100,0
	Total	2266	100,0	100,0	

Denomination

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Catholics	735	32,4	32,4	32,4
	Protestants	493	21,8	21,8	54,2
	Buddhists	142	6,3	6,3	60,5
	Non-religious	896	39,5	39,5	100,0
	Total	2266	100,0	100,0	

Denomination for the gereman sample

Denomination

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Catholics	310	19,1	19,1	19,1
	Protestants	493	30,4	30,4	49,5
	Buddhists	90	5,5	5,5	55,0
	Non-religious	730	45,0	45,0	100,0
	Total	1623	100,0	100,0	

Denomination for the polish sample

Denomination

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Catholics	425	66,1	66,1	66,1
	Buddhists	52	8,1	8,1	74,2
	Non-religious	166	25,8	25,8	100,0
	Total	643	100,0	100,0	

Strength of religious faith for the german sample

Strength of religious faith_Median_Split

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	1236	76,2	76,2	76,2
	high	387	23,8	23,8	100,0
	Total	1623	100,0	100,0	

Church attendance for the german sample

1. How often do you attend church or other religious meetings?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	548	33,8	33,8	33,8
	Once a year or less	530	32,7	32,7	66,4
	A few times a year	269	16,6	16,6	83,0
	A few times a month	80	4,9	4,9	87,9
	Once a week	93	5,7	5,7	93,7
	More than once a week	103	6,3	6,3	100,0
	Total	1623	100,0	100,0	

Private religious activity for the german sample

2. How often do you spend time in private religious activities, such as prayer, meditation or Bible study?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely or never	1116	68,8	68,8	68,8
	A few times a month	135	8,3	8,3	77,1
	Once a week	62	3,8	3,8	80,9
	Two or more times a week	131	8,1	8,1	89,0
	Daily	140	8,6	8,6	97,6
	More than once a day	39	2,4	2,4	100,0
	Total	1623	100,0	100,0	

Strength of religious faith for the polish sample

Strength of religious faith_Median_Split

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	308	47,9	47,9	47,9
	high	335	52,1	52,1	100,0
	Total	643	100,0	100,0	

Church attendance for the polish sample

1. How often do you attend church or other religious meetings?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	122	19,0	19,0	19,0
	Once a year or less	61	9,5	9,5	28,5
	A few times a year	95	14,8	14,8	43,2
	A few times a month	79	12,3	12,3	55,5
	Once a week	175	27,2	27,2	82,7
	More than once a week	111	17,3	17,3	100,0
	Total	643	100,0	100,0	

Private religious activities for the polish sample

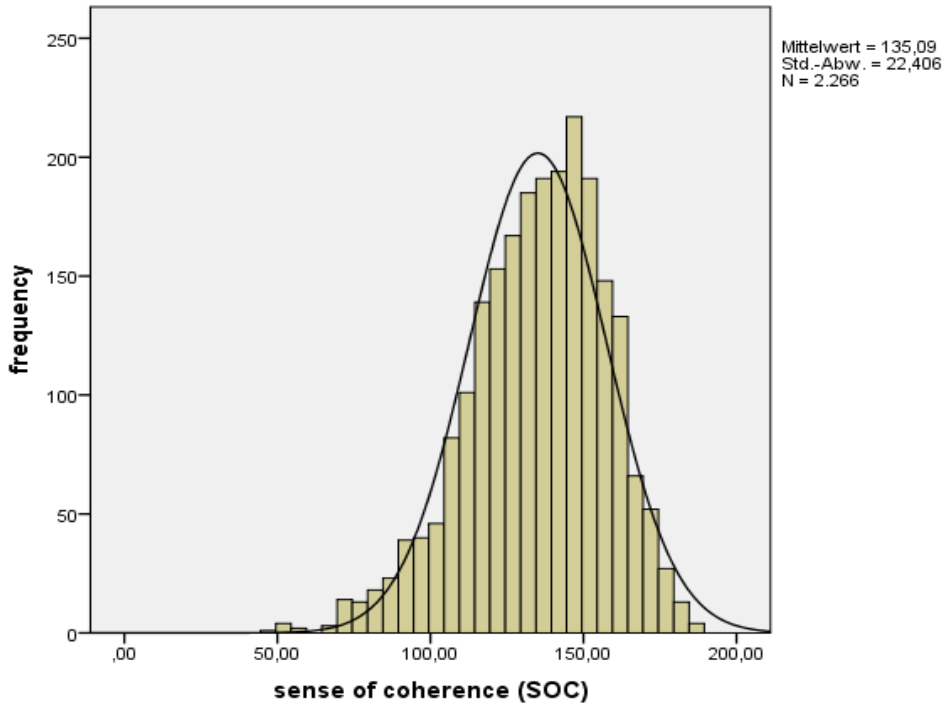
2. How often do you spend time in private religious activities, such as prayer, meditation or Bible study?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely or never	246	38,3	38,3	38,3
	A few times a month	71	11,0	11,0	49,3
	Once a week	22	3,4	3,4	52,7
	Two or more times a week	80	12,4	12,4	65,2
	Daily	158	24,6	24,6	89,7
	More than once a day	66	10,3	10,3	100,0
	Total	643	100,0	100,0	

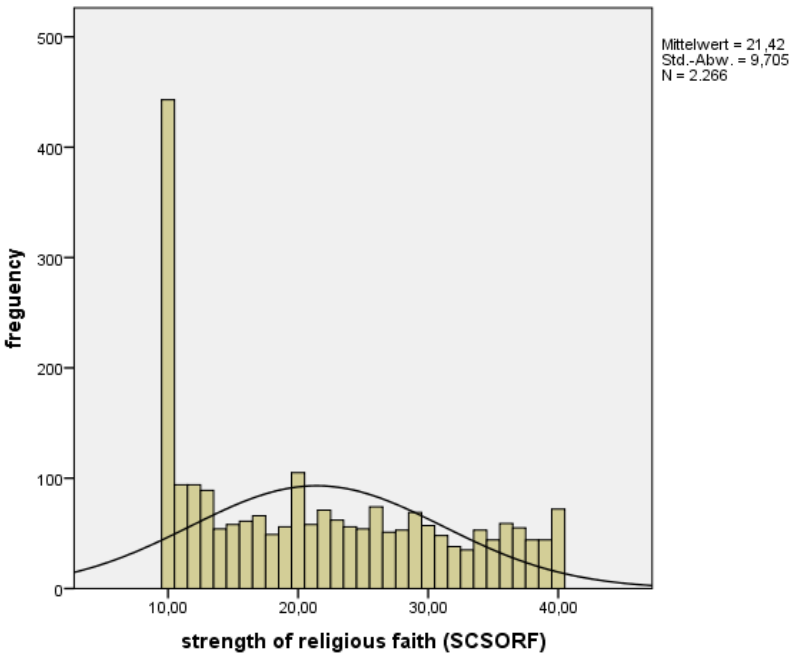
Annex 2

Normal distribution of the scales (SOC, SCSORF, ORA, NORA, PSS, GSE)

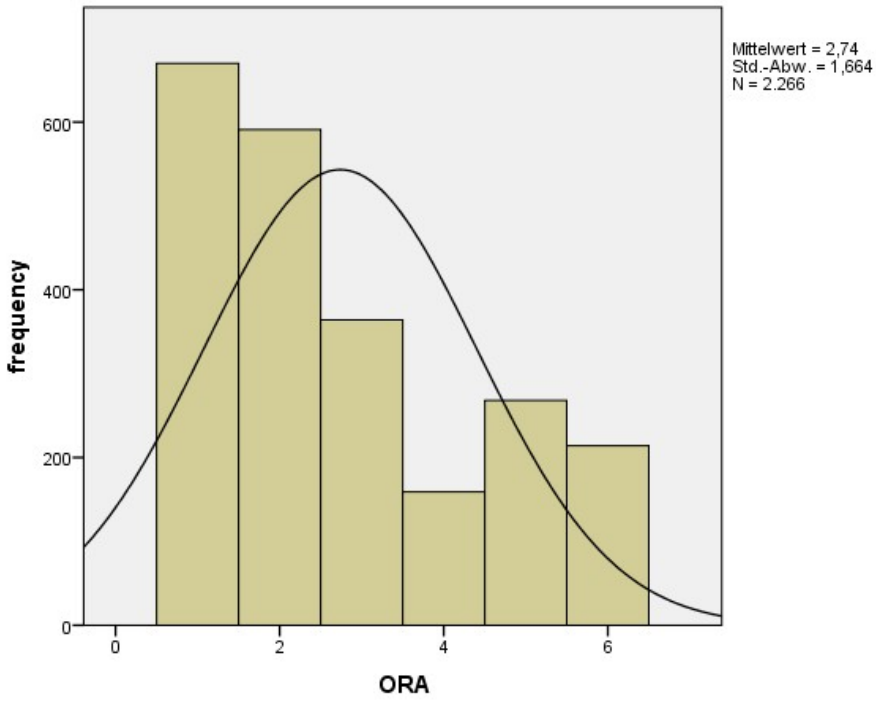
Sense of coherence (SOC)



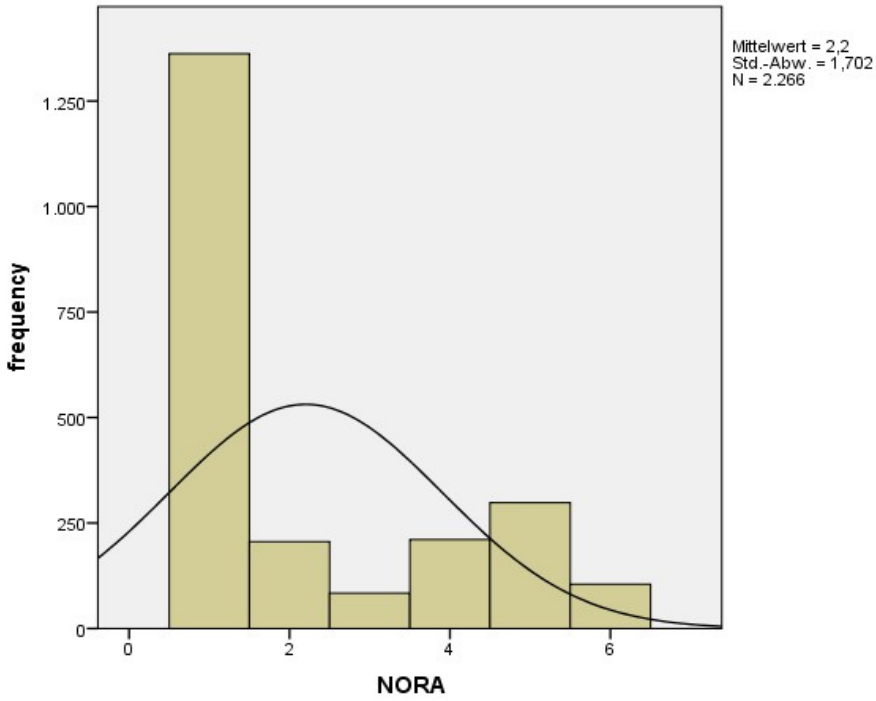
Santa Clara Strength of Religious Faith Questionnaire (SCSORF)



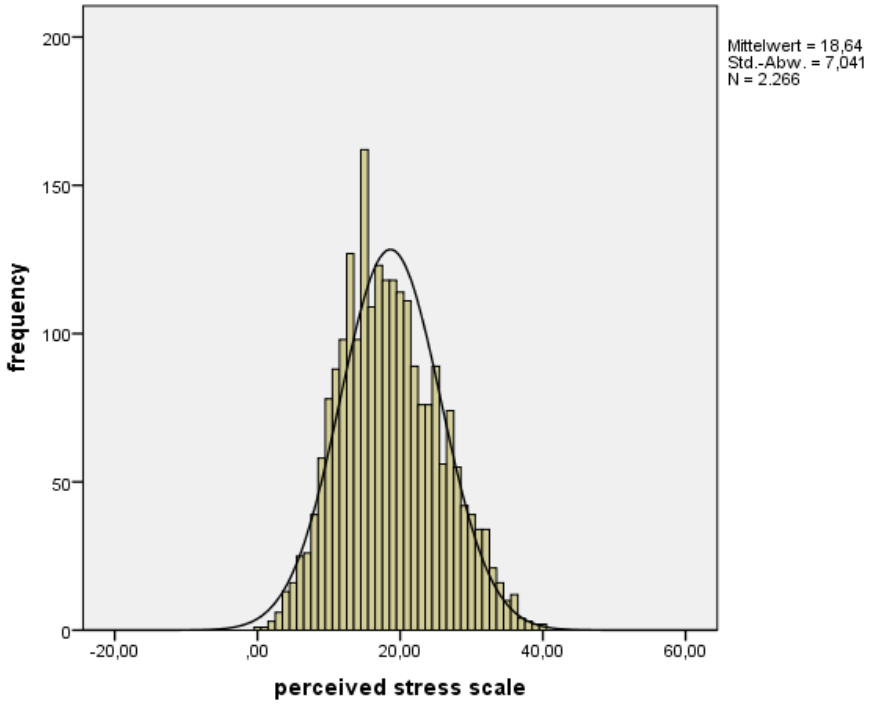
Duke University Religion Index (ORA)



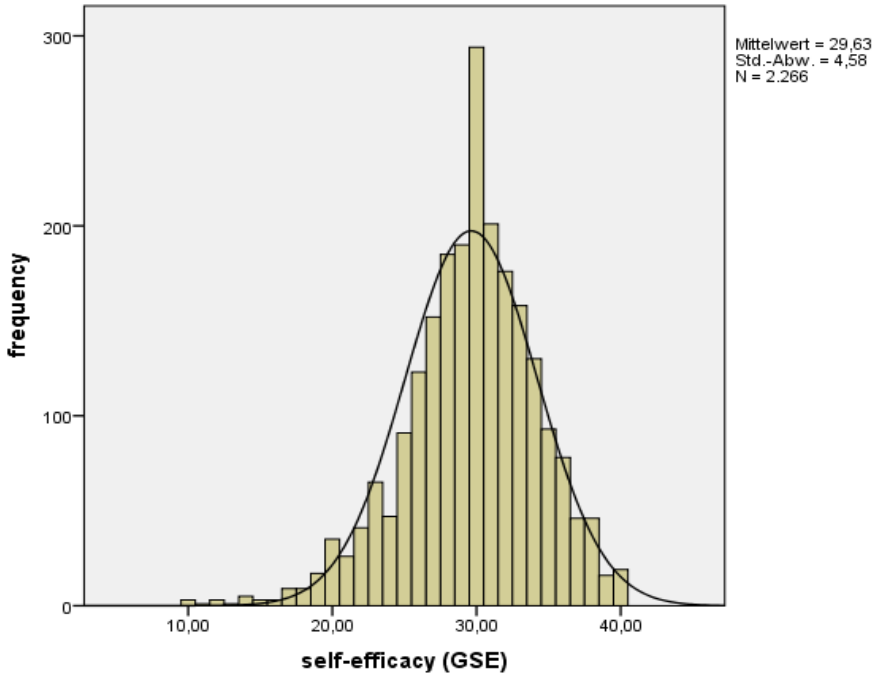
Duke University Religion Index (NORA)



Perceived Stress Scale (PSS)



General Self-Efficacy (GSE)



Reliability of the scales

For the german sample.

Orientation to Life Questionnaire (SOC 29-Items)

Reliability Statistics

Cronbach's Alpha	N of Items
,891	29

Santa Clara Strength of Religious Faith (SCSORF 10-Items)

Reliability Statistics

Cronbach's Alpha	N of Items
,962	10

DUREL; ORA and ORA (2-Items)

Reliability Statistics

Cronbach's Alpha	N of Items
,839	2

Perceived Stress Scale (PSS 10-Items)

Reliability Statistics

Cronbach's Alpha	N of Items
,873	10

General Self-Efficacy (GSE 10-Items)

Reliability Statistics

Cronbach's Alpha	N of Itemms
,870	10

For the polish sample

Orientation to Life Questionnaire (SOC 29-Items)

Reliability Statistics

Cronbach's Alpha	N of Itemms
,918	29

Santa Clara Strength of Religious Faith (SCSORF 10-Items)

Reliability Statistics

Cronbach's Alpha	N of Itemms
,953	10

DUREL; ORA and ORA (2-Items)

Reliability Statistics

Cronbach's Alpha	N of Itemms
,844	2

Perceived Stress Scale (PSS 10-Items)

Reliability Statistics

Cronbach's Alpha	N of Itemms
,880	10

General Self-Efficacy (GSE 10-Items)

Reliability Statistics

Cronbach's Alpha	N of Itemms
,892	10

Descriptive statistic for median-split for ORA and mean-split for NORA

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
ORA	2266	100.0%	0	0.0%	2266	100.0%
NORA	2266	100.0%	0	0.0%	2266	100.0%

Descriptives

			Statistic	Std. Error
ORA	Mean		2.74	.035
	95% Confidence Interval for Mean	Lower Bound	2.67	
		Upper Bound	2.81	
	5% Trimmed Mean		2.65	
	Median		2.00	
	Variance		2.769	
	Std. Deviation		1.664	
	Minimum		1	
	Maximum		6	
	Range		5	
	Interquartile Range		3	
	Skewness		.681	.051
	Kurtosis		-.814	.103
NORA	Mean		2.20	.036
	95% Confidence Interval for Mean	Lower Bound	2.13	
		Upper Bound	2.27	
	5% Trimmed Mean		2.06	
	Median		1.00	
	Variance		2.896	
	Std. Deviation		1.702	
	Minimum		1	
	Maximum		6	
	Range		5	
	Interquartile Range		3	
	Skewness		1.002	.051
	Kurtosis		-.619	.103

Descriptive statistic for median-split for PSS and GSE

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PSS	2266	100.0%	0	0.0%	2266	100.0%
GSE	2266	100.0%	0	0.0%	2266	100.0%

Descriptives

			Statistic	Std. Error
ORA	Mean		2.74	.035
	95% Confidence Interval for Mean	Lower Bound	2.67	
		Upper Bound	2.81	
	5% Trimmed Mean		2.65	
	Median		2.00	
	Variance		2.769	
	Std. Deviation		1.664	
	Minimum		1	
	Maximum		6	
	Range		5	
	Interquartile Range		3	
	Skewness		.681	.051
	Kurtosis		-.814	.103
NORA	Mean		2.20	.036
	95% Confidence Interval for Mean	Lower Bound	2.13	
		Upper Bound	2.27	
	5% Trimmed Mean		2.06	
	Median		1.00	
	Variance		2.896	
	Std. Deviation		1.702	
	Minimum		1	
	Maximum		6	
	Range		5	
	Interquartile Range		3	
	Skewness		1.002	.051
	Kurtosis		-.619	.103

Annex 3, SOC and religion

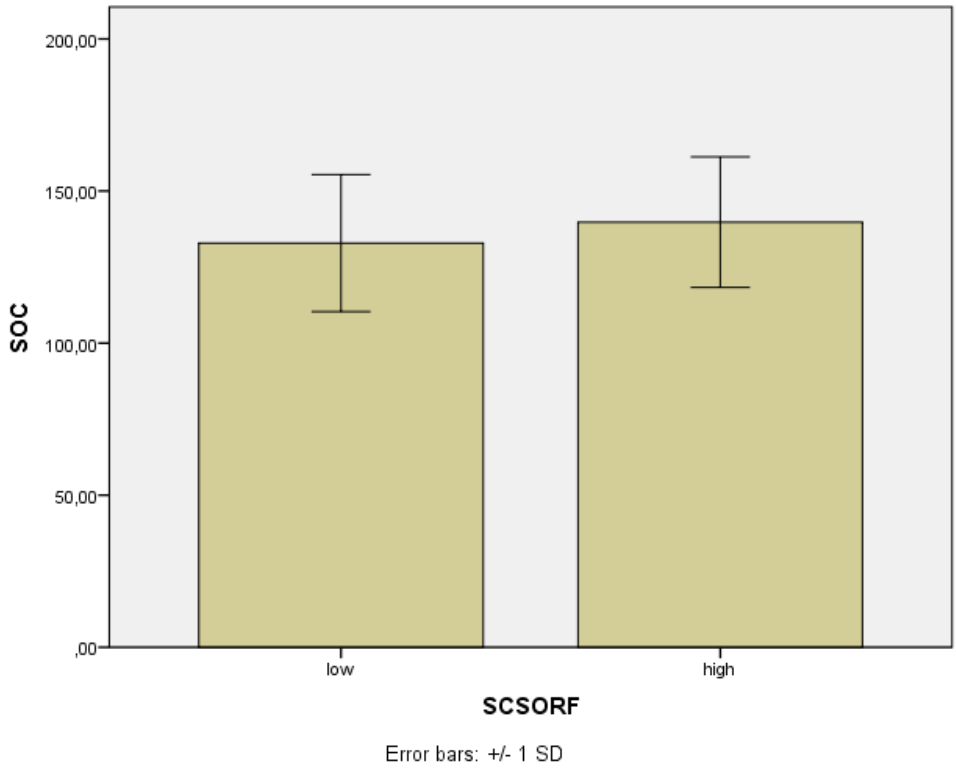
Assumption 1, SOC and SCSORF

Group Statistics

	SCSORF	N	Mean	Std. Deviation	Std. Error Mean
SOC	low	1544	132.8918	22.50926	.57285
	high	722	139.7756	21.45865	.79861

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
SOC	Equal variances assumed	2.287	.131	-6.884	2264	.000	-6.88378	1.00000	-8.84480	-4.92277
	Equal variances not assumed			-7.004	1471.759	.000	-6.88378	.98282	-8.81165	-4.95591



Effect size according to Cohen (1987)

d=0,20 small effect

d=0,50 moderate effect

d=0,80 strong effect

Formula according to Westermann (2000)

$$d = t_{emp} \cdot \sqrt{\frac{n_1 + n_2}{n_1 \cdot n_2}}$$

d=-6,884*√ 1544+722/1544*722

d=-6,884*√2266/1114768

d=-6,884*√0,001

d=-6,884*0,044

d=-0,3 small effect

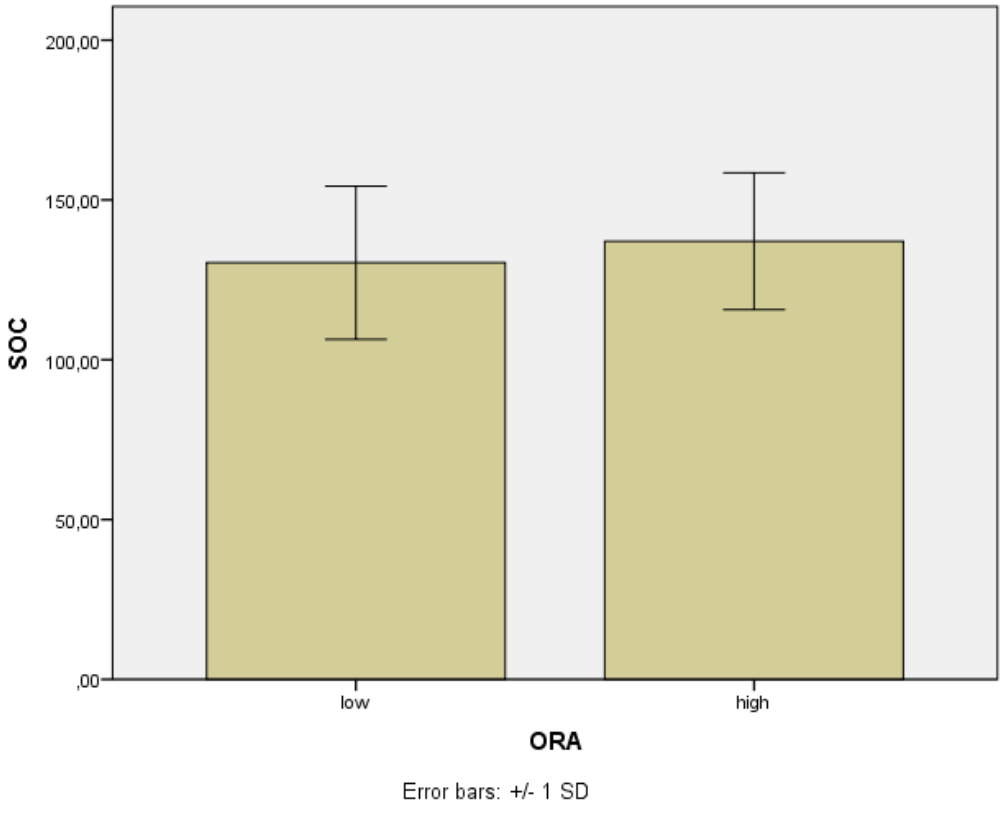
Assumption 2, SOC and ORA

Group Statistics

	ORA	N	Mean	Std. Deviation	Std. Error Mean
SOC	low	670	130.3448	23.98042	.92644
	high	1596	137.0752	21.40824	.53588

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SOC	Equal variances assumed	8.791	.003	-6.586	2264	.000	-6.73041	1.02192	-8.73441	-4.72642
	Equal variances not assumed			-6.289	1138.110	.000	-6.73041	1.07026	-8.83032	-4.63050



Effect size formula according to Westermann (2000)

$$d = t_{emp} \cdot \sqrt{\frac{n_1 + n_2}{n_1 \cdot n_2}}$$

d=-6.289*√ 670+1596/670*1596

d=-6.289*√2266+106932

d=-6.289*√0,001

d=-6.289*0,045

d=-0,3 small effect

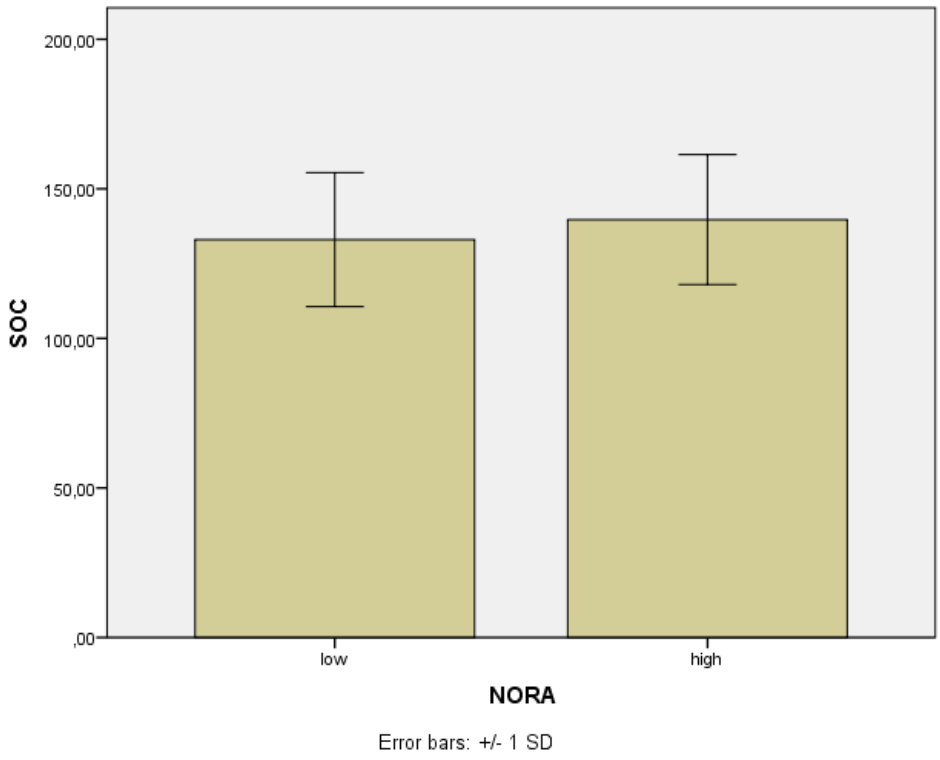
Assumption 3, SOC and NORA

Group Statistics

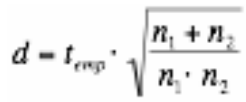
	NORA	N	Mean	Std. Deviation	Std. Error Mean
SOC	low	1568	133.0313	22.40165	.56573
	high	698	139.6991	21.73444	.82266

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
SOC	Equal variances assumed	.709	.400	-6.601	2264	.000	-6.66789	1.01007	-8.64865	-4.68714
	Equal variances not assumed			-6.679	1375.297	.000	-6.66789	.99841	-8.62646	-4.70932



Effect size formula according to Westermann (2000)



d=-6,601*√ 1568+698/1568*698

d=-6,601*√2266/1094464

d=-6,601*√0,001

d=-6,601*0,045

d=-0,3 small effect

Annex 4, PSS and religion

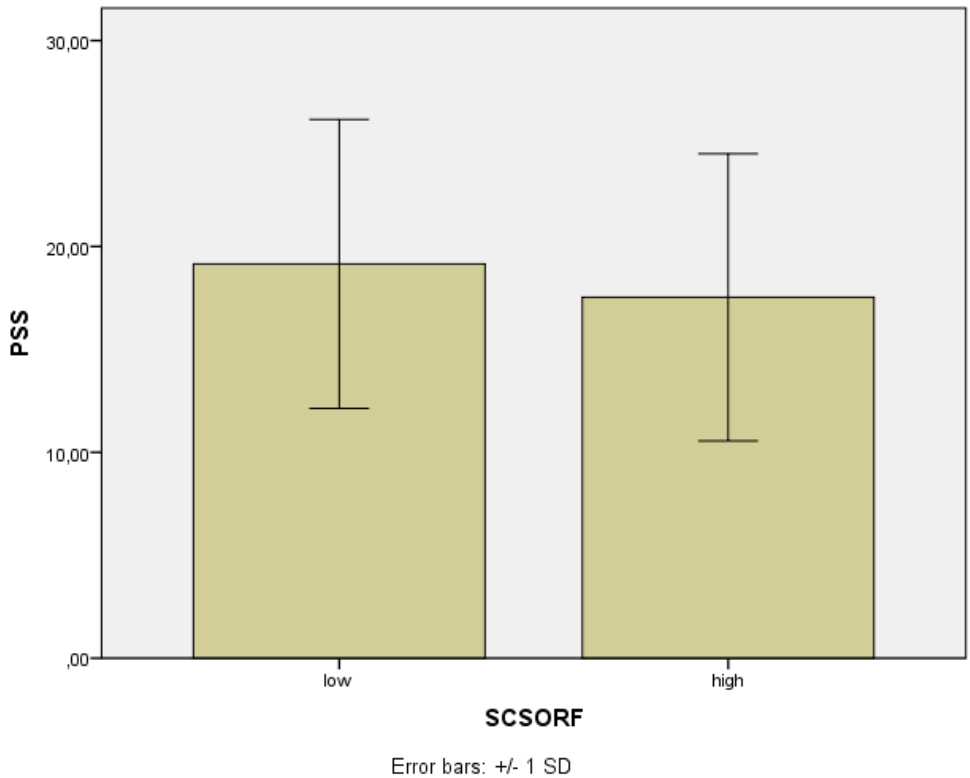
Assumption 4, PSS and SCSORF

Group Statistics

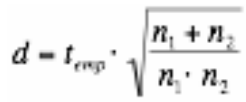
	SCSORF	N	Mean	Std. Deviation	Std. Error Mean
PSS	low	1544	19.1535	7.01552	.17854
	high	722	17.5305	6.97090	.25943

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
PSS	Equal variances assumed	.013	.908	5.142	2264	.000	1.62303	.31566	1.00401	2.24204
	Equal variances not assumed			5.154	1417.155	.000	1.62303	.31493	1.00525	2.24080



Effect size formula according to Westermann (2000)



d=5,142*√ 1544+722/1544*722

d=5,142*√ 2266/1114768

d=5,142*√ 0,001

d=5,142*0,044

d=0,2 small effect

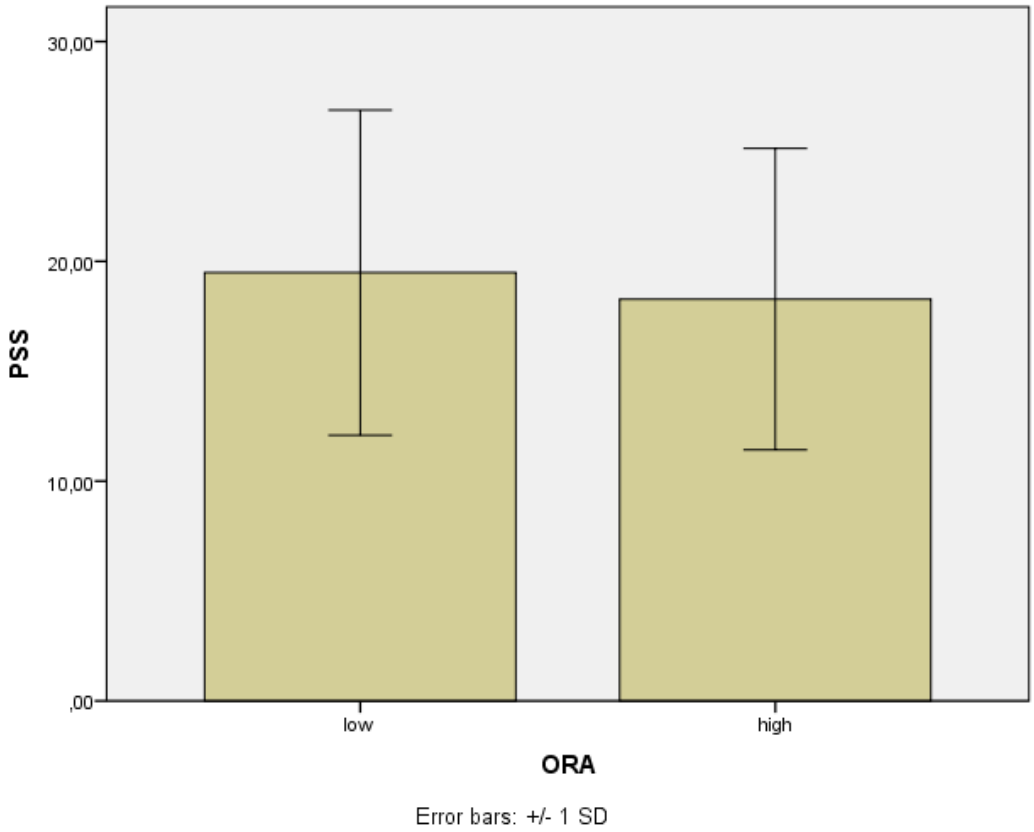
Assumption 5, PSS and ORA

Group Statistics

	ORA	N	Mean	Std. Deviation	Std. Error Mean
PSS	low	670	19.4851	7.39565	.28572
	high	1596	18.2801	6.85715	.17164

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
PSS	Equal variances assumed	7.792	.005	3.729	2264	.000	1.20500	.32318	.57123	1.83877
	Equal variances not assumed			3.615	1174.827	.000	1.20500	.33331	.55105	1.85895



Effect size formula according to Westermann (2000)

$$d = t_{emp} \cdot \sqrt{\frac{n_1 + n_2}{n_1 \cdot n_2}}$$

d=3,615*√670+1596/670*1596

d=3,615*√2266/1069320

d=3,615*√0,001

d=3,615*0,045

d=0,2 small effect

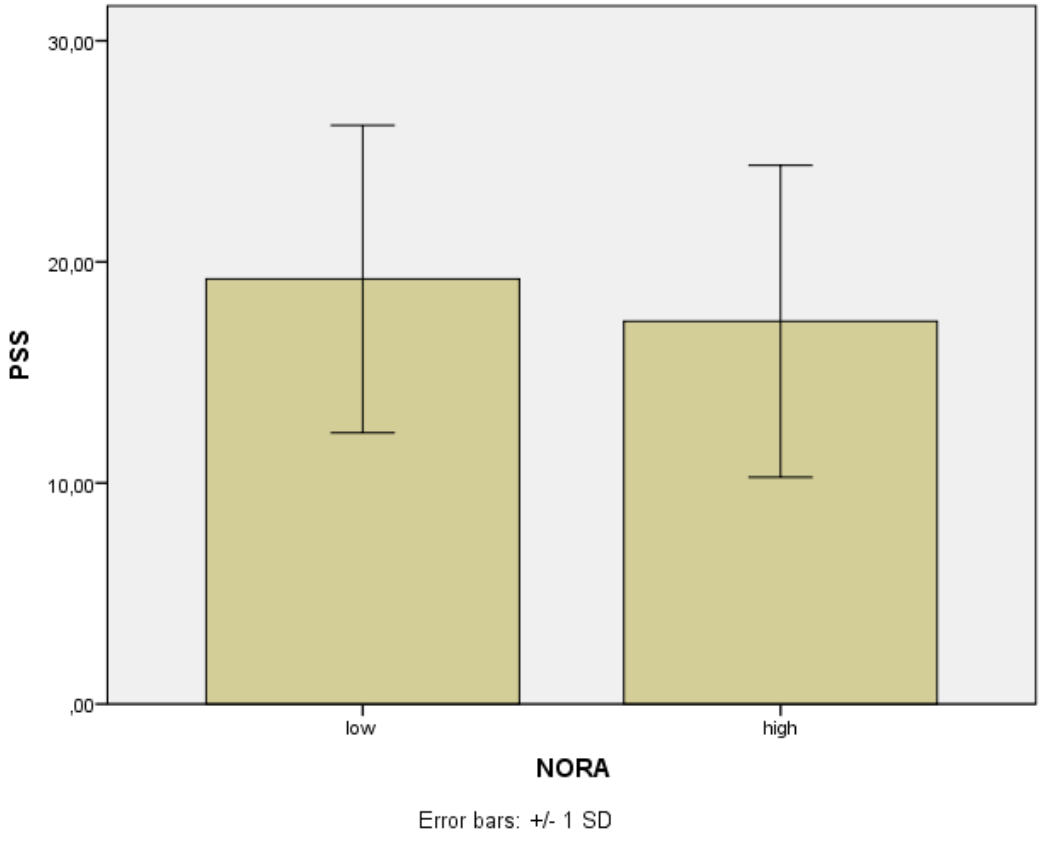
Assumption 6, PSS and NORA

Group Statistics

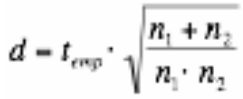
	NORA	N	Mean	Std. Deviation	Std. Error Mean
PSS	low	1568	19.2251	6.95585	.17566
	high	698	17.3138	7.05505	.26704

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
PSS	Equal variances assumed	.131	.717	6.012	2264	.000	1.91137	.31790	1.28797	2.53478
	Equal variances not assumed			5.980	1320.727	.000	1.91137	.31963	1.28433	2.53842



Effect site formula according to Westermann (2000)



d=6,012*√1568+698/1568*698

d=6,012*√2266/1094464

d=6,012*√0,001

d=6,012*0,045

d=0,3 small effect

Annex 5, GSE and religion

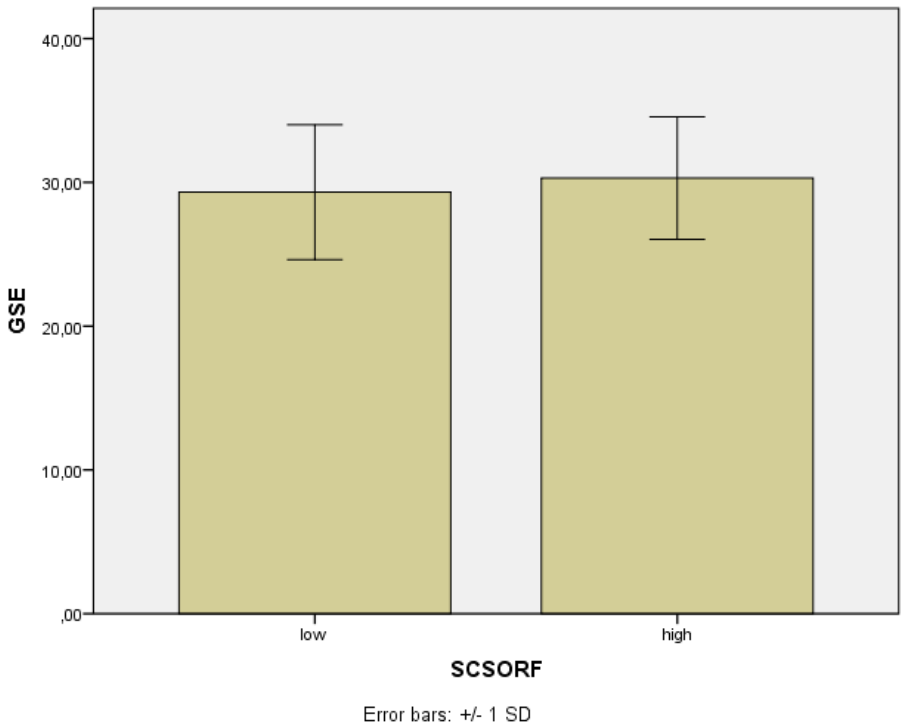
Assumption 7, GSE and SCSORF

Group Statistics

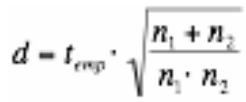
	SCSORF	N	Mean	Std. Deviation	Std. Error Mean
GSE	low	1544	29.3206	4.69140	.11939
	high	722	30.2936	4.26022	.15855

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
GSE	Equal variances assumed	5.845	.016	-4.734	2264	.000	-.97303	.20552	-1.37607	-.57000
	Equal variances not assumed			-4.903	1539.267	.000	-.97303	.19848	-1.36234	-.58372



Effect size formula according to Westermann (2000)



d=-4,903√1544+722/1544*722

d=-4,903*√ 2266/1114768

d=-4,903*√ 0,001

d=-4,903*0,044

d=0,1 small effect

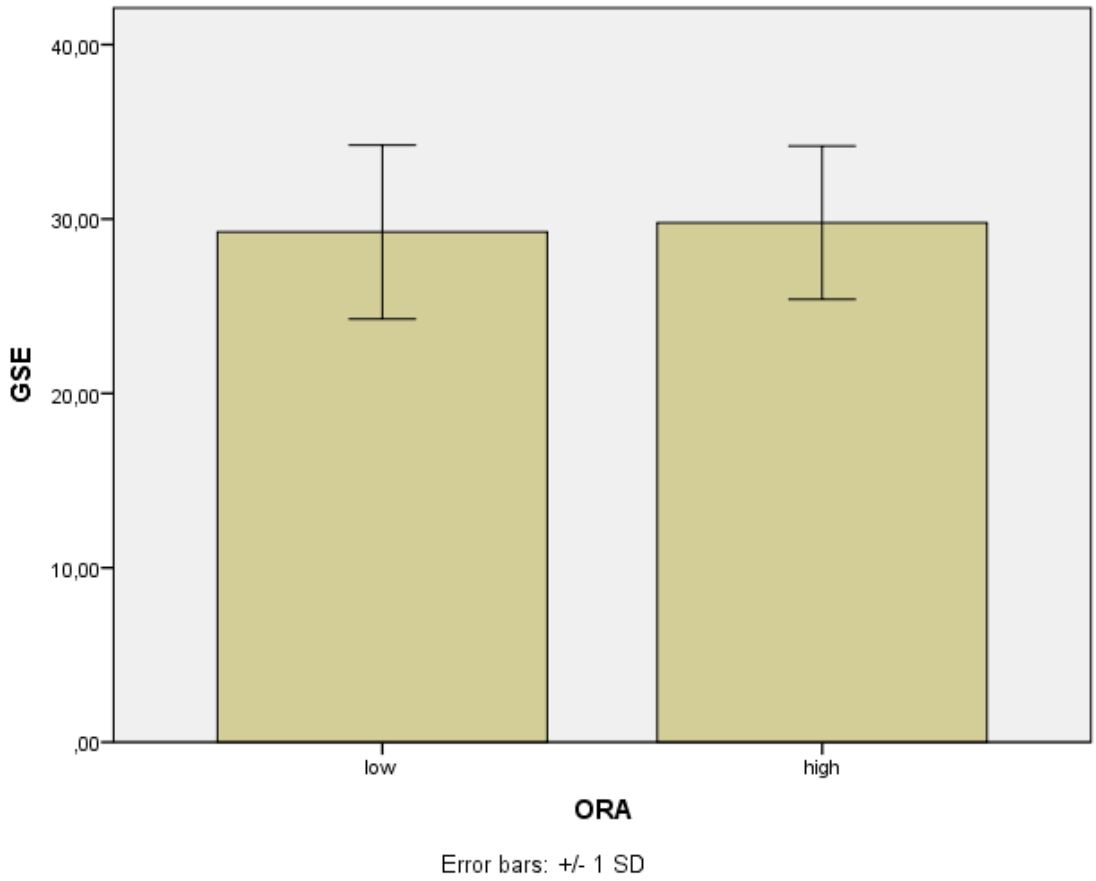
Assumption 8, GSE and ORA

Group Statistics

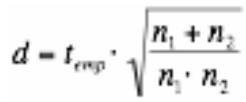
	ORA	N	Mean	Std. Deviation	Std. Error Mean
GSE	low	670	29.2537	4.98381	.19254
	high	1596	29.7888	4.39149	.10992

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
GSE	Equal variances assumed	17.729	.000	-2.541	2264	.011	-.53512	.21058	-.94807	-.12216
	Equal variances not assumed			-2.414	1126.011	.016	-.53512	.22171	-.97013	-.10010



Effect size formula according to Westermann (2000)



d=-2,414*√670+1596/670*1596

d=-2,414*√2266/1069320

d=-2,414*√0,001

d=-2,414*0,045

d=-0,1 small effect

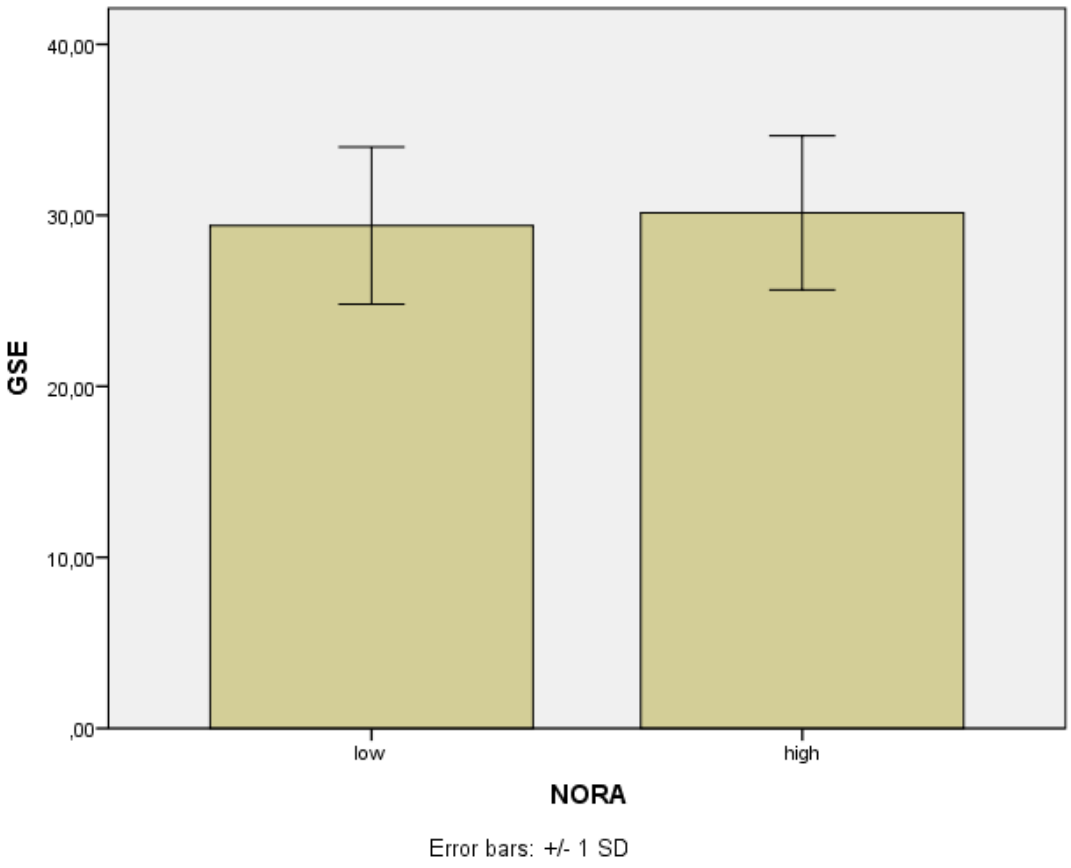
Assumption 9, GSE and NORA

Group Statistics

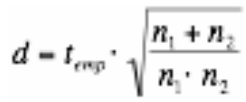
	NORA	N	Mean	Std. Deviation	Std. Error Mean
GSE	low	1568	29.4031	4.59622	.11607
	high	698	30.1418	4.50489	.17051

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
GSE	Equal variances assumed	1.362	.243	-3.554	2264	.000	-.73877	.20787	-1.14640	-.33114
	Equal variances not assumed			-3.582	1362.492	.000	-.73877	.20627	-1.14341	-.33413



Effect size formula according to Westermann (2000)



d=-3,554*√1568+698/1568*698

d=-3,554*√2266/1094464

d=-3,554*√0,001

d=-3,554*0,045

d=-0,1 small effect

Annex 6, Denomination and SOC, PSS, GSE

Assumption 10, SOC and denomination

SOC **ONEWAY ANOVA**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	49199,891	3	16399,964	34,099	,000
Within Groups	1087900,671	2262	480,946		
Total	1137100,562	2265			

SOC **Test of Homogeneity of Variances**

Levene's Statistic	df1	df2	Sig.
10,071	3	2262	,000

Robust Tests of Equality of Means

SOC

	Statistik[a]	df1	df2	Sig.
Welch	41,405	3	612,399	,000

Asymptotically F distributed.

SOC **ONEWAY descriptive Statistician**

	N	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		Min.	Max.
Denomination					Lower	Upper		
Catholics	735	134,7088	21,98029	,81076	133,1172	136,3005	51,00	186,00
Protestants	493	138,2434	19,47370	,87705	136,5202	139,9666	78,00	182,00
Buddhists	142	149,9437	18,57504	1,55878	146,8621	153,0253	70,00	179,00
Non-religious	896	131,3013	23,58990	,78808	129,7546	132,8480	47,00	185,00
Total	2266	135,0852	22,40605	,47069	134,1621	136,0082	47,00	186,00

Effect size

Tests of Between-Subjects Effects

Dependent Variable: SOC

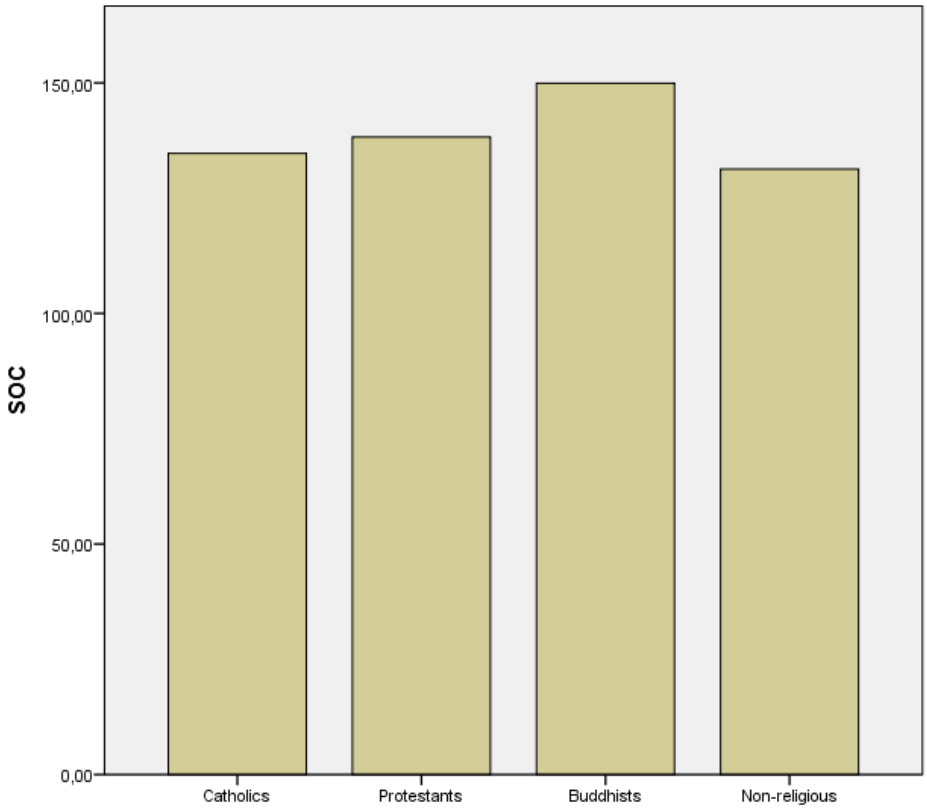
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	49199,891[a]	3	16399,964	34,099	,000	,043
Intercept	26598034,130	1	26598034,130	55303,535	,000	,961
Denomination	49199,891	3	16399,964	34,099	,000	,043
Error	1087900,671	2262	480,946			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				

Multiple Comparisons

Dependent Variable: SOC
Bonferroni

(I) 3. What religion do you practice?	(J) 3. What religion du you practice?	Mean Difference (I-J)	Std. Error	Sig.	95%-Confidence Interval for Mean	
					Lower Bound	Upper Bound
I am Catholic	I am Protestant	-3,53456*	1,27668	,034	-6,9057	-,1634
	I am Buddhist	-15,23482*	2,01030	,000	-20,5432	-9,9265
	I do not practice any religion	3,40750*	1,09138	,011	,5256	6,2894
I am Protestant	I am Catholic	3,53456*	1,27668	,034	,1634	6,9057
	I am Buddhist	-11,70025*	2,08866	,000	-17,2155	-6,1850
	I do not practice any religion	6,94207*	1,22976	,000	3,6948	10,1894
I am Buddhist	I am Catholic	15,23482*	2,01030	,000	9,9265	20,5432
	I am Protestant	11,70025*	2,08866	,000	6,1850	17,2155
	I do not practice any religion	18,64232*	1,98084	,000	13,4118	23,8729
I do not practice any religion	I am Catholic	-3,40750*	1,09138	,011	-6,2894	-,5256
	I am Protestant	-6,94207*	1,22976	,000	-10,1894	-3,6948
	I am Buddhist	-18,64232*	1,98084	,000	-23,8729	-13,4118

*. The mean difference is significant at the .05 level



Assumption 11, PSS and denomination

ANOVA

PSS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4735.504	3	1578.501	33.203	.000
Within Groups	107538.859	2262	47.541		
Total	112274.364	2265			

Test of Homogeneity of Variances

PSS

Levene Statistic	df1	df2	Sig.
6.944	3	2262	.000

Robust Tests of Equality of Means

PSS

	Statistic[a]	df1	df2	Sig.
Welch	39.770	3	603.126	.000

a. Asymptotically F distributed.

Descriptive Statistics

Dependent Variable: PSS

3. What religion do you practice?	Mean	Std. Deviation	N
I am Catholic	18.5782	6.74762	735
I am Protestant	18.8783	6.52492	493
I am Buddhist	13.2183	6.17260	142
I do not practice any religion	19.4096	7.30812	896
Total	18.6364	7.04054	2266

Effect size

Tests of Between-Subjects Effects

Dependent Variable: PSS

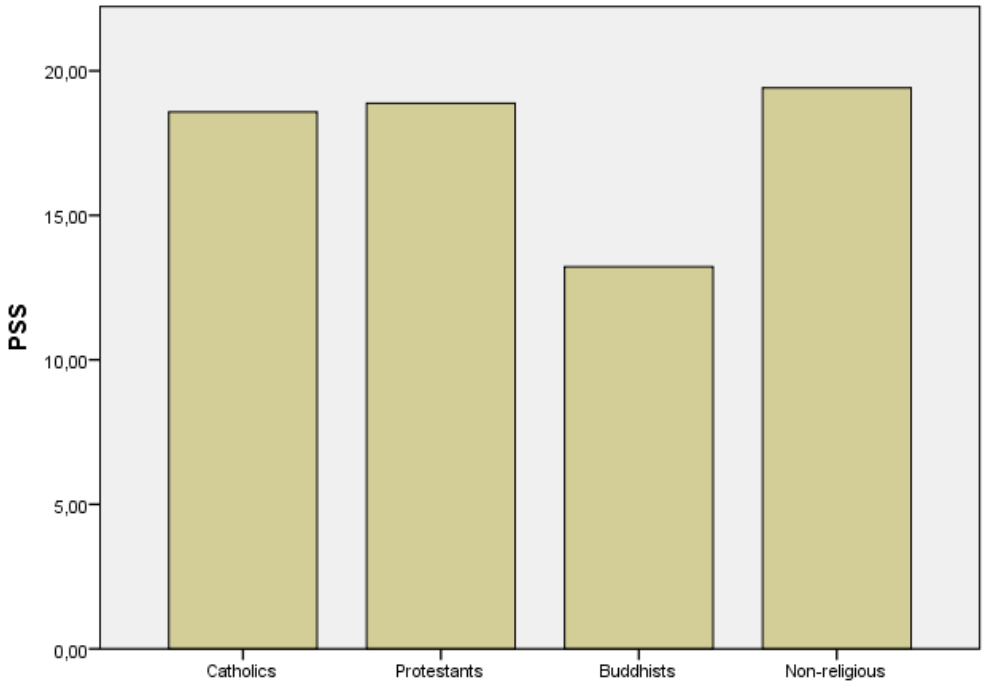
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	4735,504[a]	3	1578,501	33,203	,000	,042
Intercept	425367,164	1	425367,164	8947,282	,000	,798
Denomination	4735,504	3	1578,501	33,203	,000	,042
Error	107538,859	2262	47,541			
Total	899288,000	2266				
Corrected Total	112274,364	2265				

Multiple Comparisons

Dependent Variable: perceived_stress
Bonferroni

(I) 3. What religion do you practice?	(J) 3. What religion do you practice?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
I am Catholic	I am Protestant	-.30006	.40139	1.000	-1.3600	.7598
	I am Buddhist	5.35992*	.63205	.000	3.6910	7.0289
	I do not practice any religion	-.83137	.34314	.093	-1.7374	.0747
I am Protestant	I am Catholic	.30006	.40139	1.000	-.7598	1.3600
	I am Buddhist	5.65999*	.65668	.000	3.9260	7.3940
	I do not practice any religion	-.53130	.38664	1.000	-1.5523	.4897
I am Buddhist	I am Catholic	-5.35992*	.63205	.000	-7.0289	-3.6910
	I am Protestant	-5.65999*	.65668	.000	-7.3940	-3.9260
	I do not practice any religion	-6.19129*	.62278	.000	-7.8358	-4.5468
I do not practice any religion	I am Catholic	.83137	.34314	.093	-.0747	1.7374
	I am Protestant	.53130	.38664	1.000	-.4897	1.5523
	I am Buddhist	6.19129*	.62278	.000	4.5468	7.8358

*. The mean difference is significant at the .05 level.



Assumption 12, GSE and denomination

ANOVA

GSE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1077.108	3	359.036	17.490	.000
Within Groups	46434.726	2262	20.528		
Total	47511.835	2265			

Test of Homogeneity of Variances

GSE

Levene Statistic	df1	df2	Sig.
7.263	3	2262	.000

Robust Tests of Equality of Means

GSE

	Statistic[a]	df1	df2	Sig.
Welch	19.528	3	598.695	.000

a. Asymptotically F distributed.

Descriptive Statistics

Dependent Variable: GSE

3. What religion do you practice?	Mean	Std. Deviation	N
I am Catholic	29.6694	4.34084	735
I am Protestant	29.3124	4.13588	493
I am Buddhist	32.2324	4.25377	142
I do not practice any religion	29.3616	4.91683	896
Total	29.6306	4.58001	2266

Effect size

Tests of Between-Subjects Effects

Dependent Variable: GSE

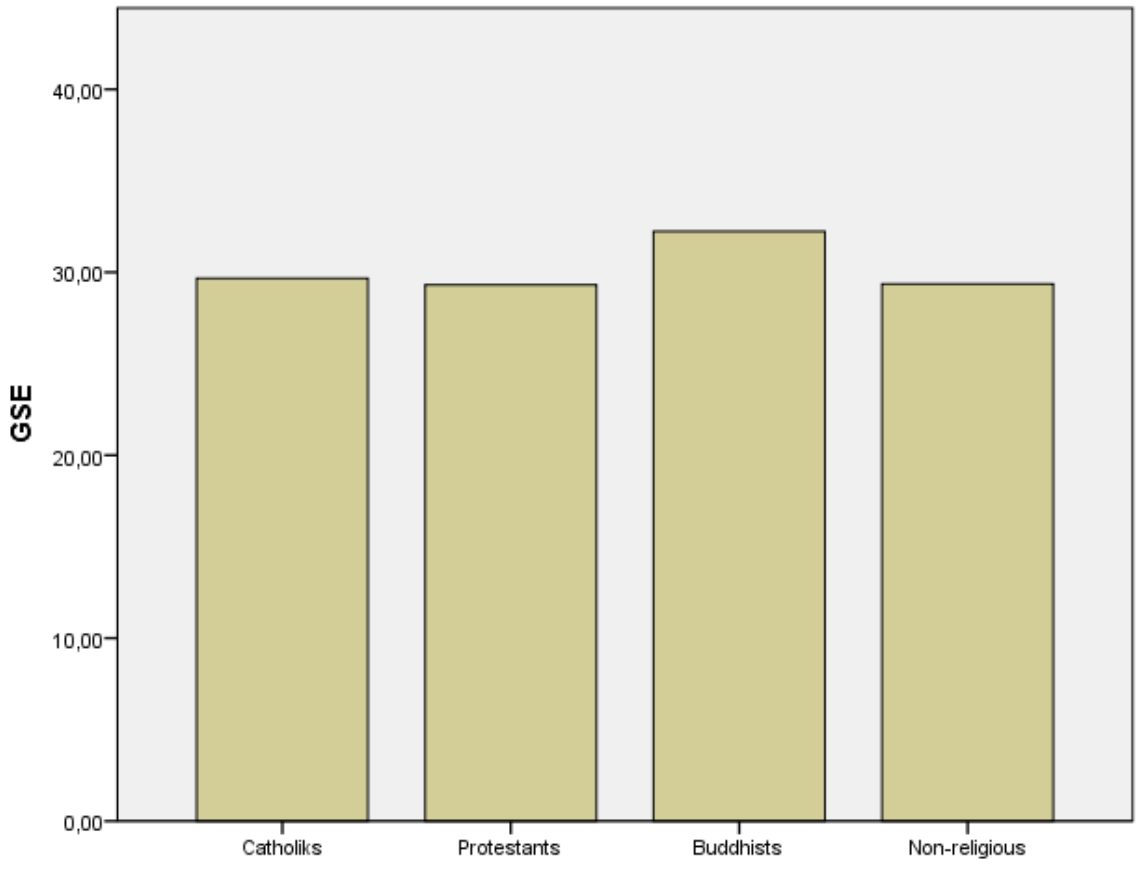
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	1077,108[a]	3	359,036	17,490	,000	,023
Intercept	1259043,792	1	1259043,792	61332,483	,000	,964
Denomination	1077,108	3	359,036	17,490	,000	,023
Error	46434,726	2262	20,528			
Total	2037001,000	2266				
Corrected Total	47511,835	2265				

Multiple Comparisons

Dependent Variable: GSE
Bonferroni

(I) 3. What religion do you practice?	(J) 3. What religion do you practice?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
I am Catholic	I am Protestant	.3570	.26376	1.000	-.3395	1.0535
	I am Buddhist	-2.5630*	.41532	.000	-3.6597	-1.4663
	I do not practice any religion	.3078	.22548	1.000	-.2876	.9032
I am Protestant	I am Catholic	-.3570	.26376	1.000	-1.0535	.3395
	I am Buddhist	-2.9200*	.43151	.000	-4.0595	-1.7806
	I do not practice any religion	-.0492	.25407	1.000	-.7201	.6217
I am Buddhist	I am Catholic	2.5630*	.41532	.000	1.4663	3.6597
	I am Protestant	2.9200*	.43151	.000	1.7806	4.0595
	I do not practice any religion	2.8708*	.40924	.000	1.7902	3.9514
I do not practice any religion	I am Catholic	-.3078	.22548	1.000	-.9032	.2876
	I am Protestant	.0492	.25407	1.000	-.6217	.7201
	I am Buddhist	-2.8708*	.40924	.000	-3.9514	-1.7902

*. The mean difference is significant at the ,05 level.



Annex 7, country and SOC, PSS and GSE

Assumption 13, SOC and country

Group Statistics

	Country	N	Mean	Std. Deviation	Std. Error Mean
SOC	Poland	643	134,1	0,52	0,52
	Germany	1623	135,48	21,10681	0,54

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
SOC	Equal variances assumed	30,556	,000	1,320	2264	,187	1,37830	1,04390	-,66880	3,42540
	Equal variances not assumed			1,220	1011,867	,223	1,37830	1,12982	-,83875	3,59535

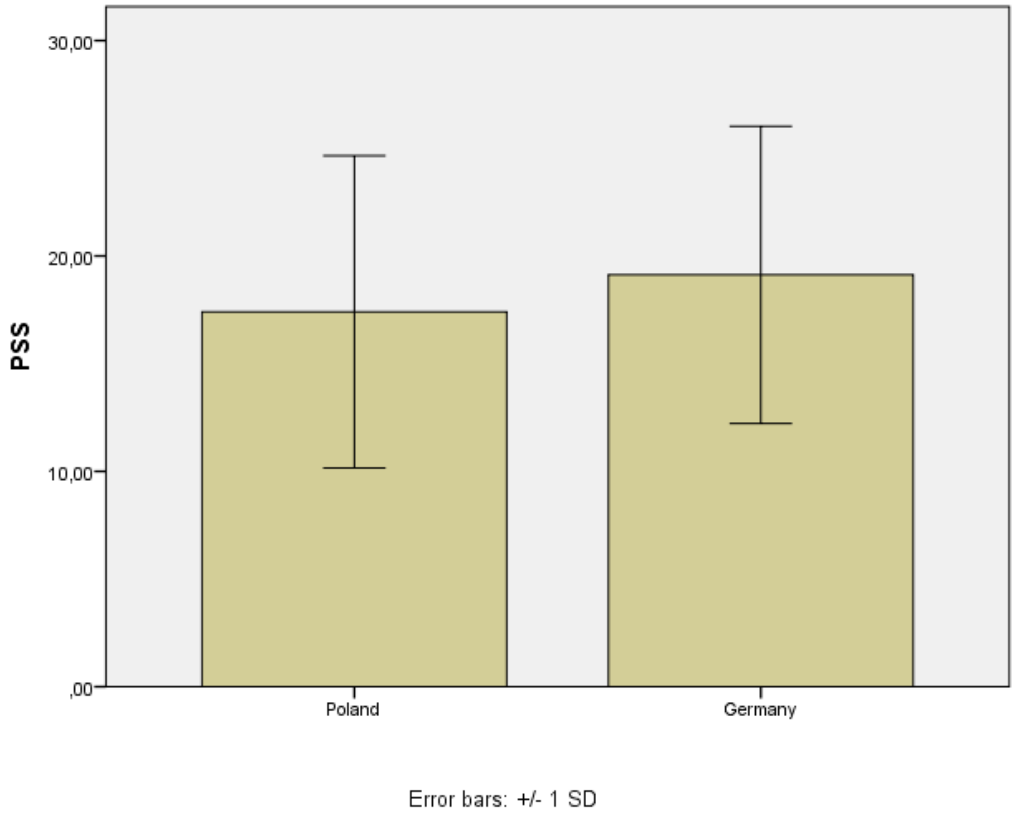
Assumption 14, PSS and country

Group Statistics

	Country	N	Mean	Std. Deviation	Std. Error Mean
PSS	Poland	643	17.4044	7.25019	.28592
	Germany	1623	19.1245	6.89738	.17121

Independent Samples Test

		Levene's Test for Equality of Variances	t-test for Equality of Means						
								95% Confidence Interval of the Difference	
		Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PSS	Equal variances assumed	.290	-5.274	2264	.000	-1.72011	.32615	-2.35969	-1.08052
	Equal variances not assumed		-5.161	1127.553	.000	-1.72011	.33326	-2.37399	-1.06623



Effect size formula according to Westermann (2000)

$$d = t_{emp} \cdot \sqrt{\frac{n_1 + n_2}{n_1 \cdot n_2}}$$

d=-5,274*√643+1623/643*1623

d=-5,274*√2266/1043589

d=-5,274*√0,001

d=-5,274*0,046

d=-0,1 small effect

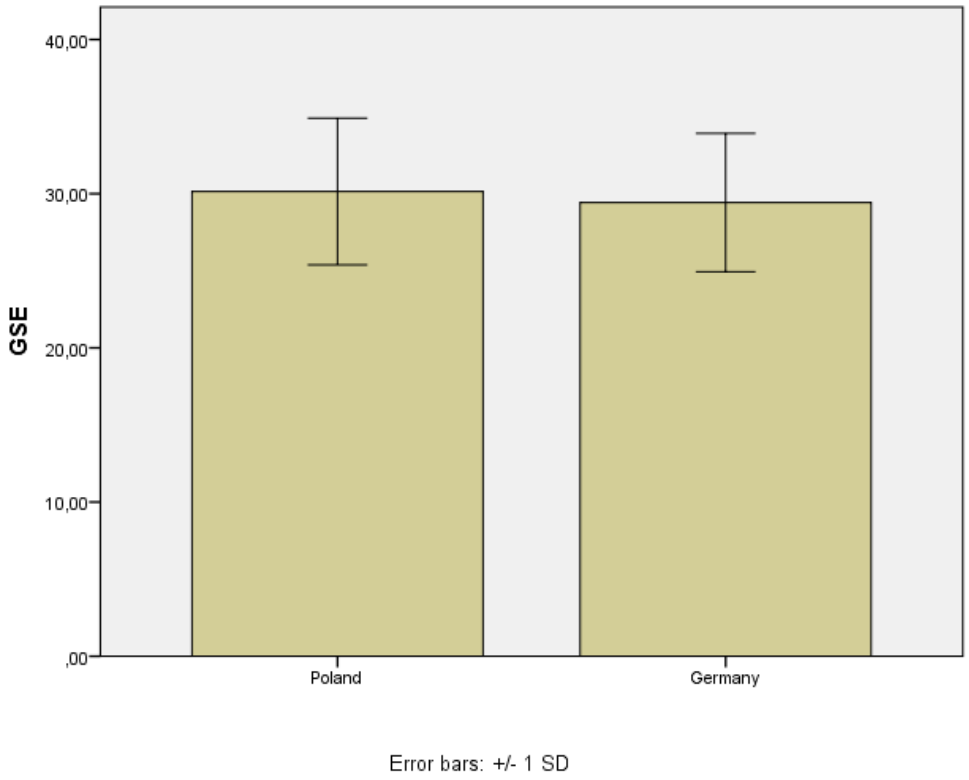
Assumption 15, GSE and country

Group Statistics

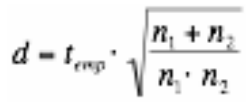
	Country	N	Mean	Std. Deviation	Std. Error Mean
GSE	Poland	643	30.1431	4.76174	.18778
	Germany	1623	29.4276	4.49134	.11149

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
GSE	Equal variances assumed	1.126	.289	3.360	2264	.001	.71548	.21294	.29791	1.13304
	Equal variances not assumed			3.276	1119.281	.001	.71548	.21839	.28699	1.14397



Effect size formula according to Westermann (2000)



d=3,360*√643+1623/643*1623

d=3,360*√2266/1043589

d=3,360*√0,001

d=3,360*0,046

d=0,1 small effect

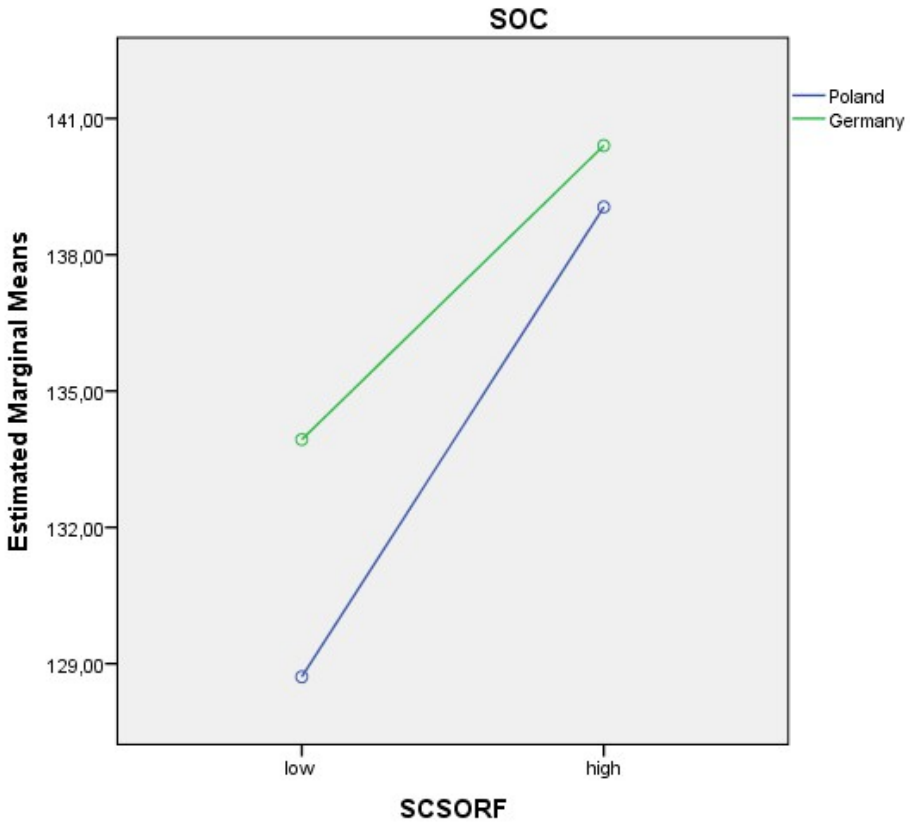
Annex 8, Interaction effects

Interaction 1, SCSORF and country on SOC

Tests of Between-Subjects Effects

Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	30365,466[a]	3	10121,822	20,687	,000	,027
Intercept	30532450,856	1	30532450,856	62403,735	,000	,965
SCSORF_MEDIAN_SPLIT	29355,991	1	29355,991	59,999	,000	,026
Country	4491,517	1	4491,517	9,180	,002	,004
SCSORF_MEDIAN_SPLIT * Country	1556,275	1	1556,275	3,181	,075	,001
Error	1106735,096	2262	489,273			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				



G*Power

F tests - ANCOVA: Fixed effects, main effects and interactions

Analysis:	Post hoc: Compute achieved power		
Input:	Effect size f	=	0.10
	α err prob	=	0.075
	Total sample size	=	2266
	Numerator df	=	1
	Number of groups	=	4
	Number of covariates	=	1
Output:	Noncentrality parameter λ	=	22.6600000
	Critical F	=	3.1729786
	Denominator df	=	2261
	Power (1-β err prob)	=	0.9985499

Effect size according to Cohen (1988)

Ω^2=0,01 small effect

Ω^2=0,06 moderate effect

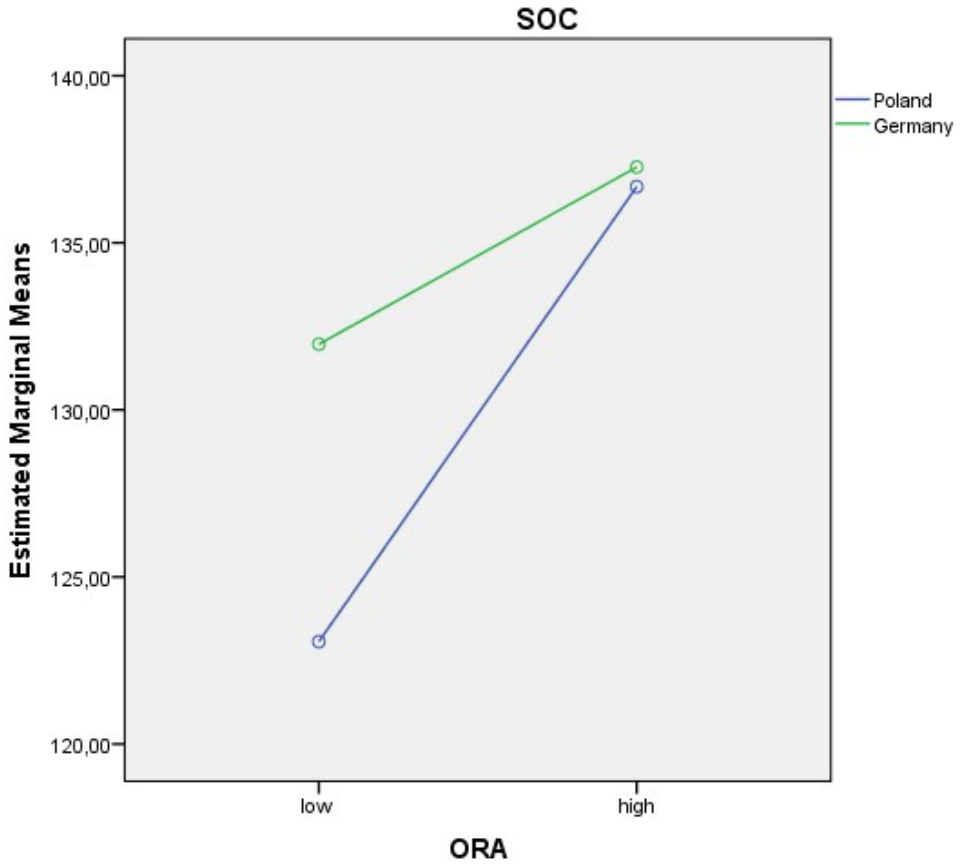
Ω^2=0,14 strong effect

Interaction 2, ORA and country on SOC

Tests of Between-Subjects Effects

Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	29399,725[a]	3	9799,908	20,012	,000	,026
Intercept	21739931,410	1	21739931,410	44394,410	,000	,952
ORA_MEDIAN_SPLIT	6988,821	1	6988,821	14,272	,000	,006
Country	27801,305	1	27801,305	56,772	,000	,024
ORA_MEDIAN_SPLIT * Country	5371,757	1	5371,757	10,969	,001	,005
Error	1107700,837	2262	489,700			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				



ORA for the german sample

Group Statistics

	ORA	N	Mean	Std. Deviation	Std. Error Mean
SOC	low	548	131,9653	22,52905	,96239
	high	1075	137,2660	20,11984	,61365

ORA for the polish sample

Group Statistics

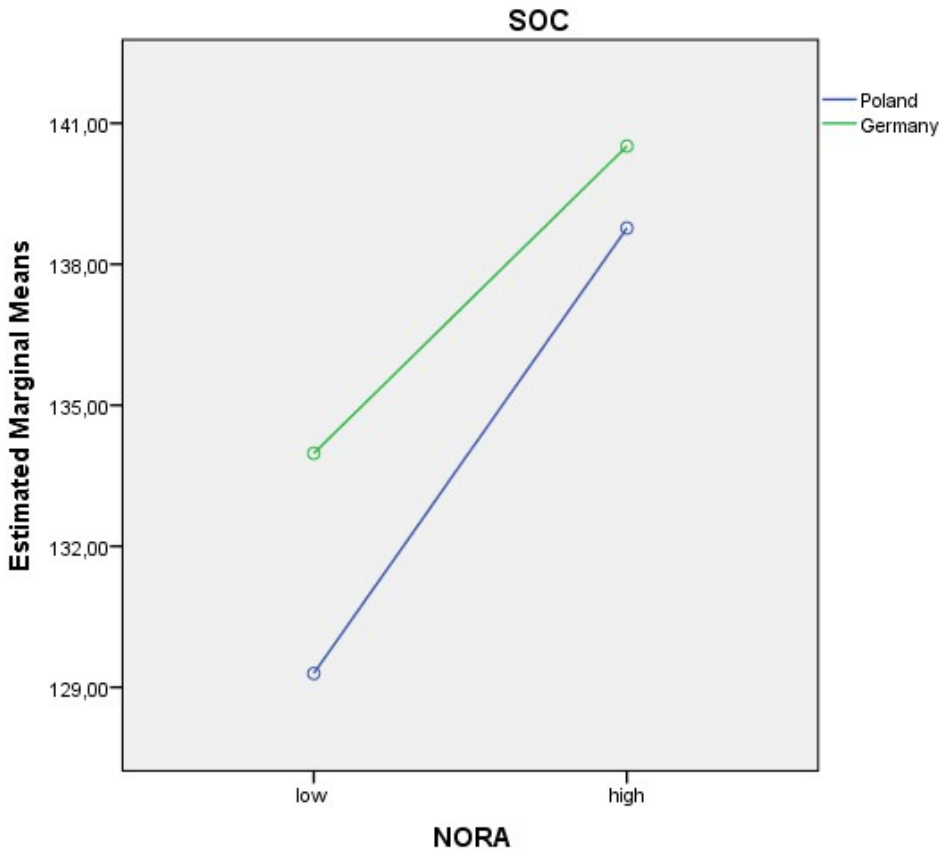
	ORA	N	Mean	Std. Deviation	Std. Error Mean
SOC	low	122	123,0656	28,62951	2,59199
	high	521	136,6814	23,86360	1,04548

Interaction 3, NORA and country on SOC

Tests of Between-Subjects Effects

Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27553.750[a]	3	9184.583	18.724	.000
Intercept	30317044.688	1	30317044.688	61806.455	.000
NORA_MEAN_SPLIT	26403.883	1	26403.883	53.829	.000
Country	4256.222	1	4256.222	8.677	.003
NORA_MEAN_SPLIT * country	891.145	1	891.145	1.817	.178
Error	1109546.812	2262	490.516		
Total	42487077.000	2266			
Corrected Total	1137100.562	2265			



G*Power

F tests - ANCOVA: Fixed effects, main effects and interactions

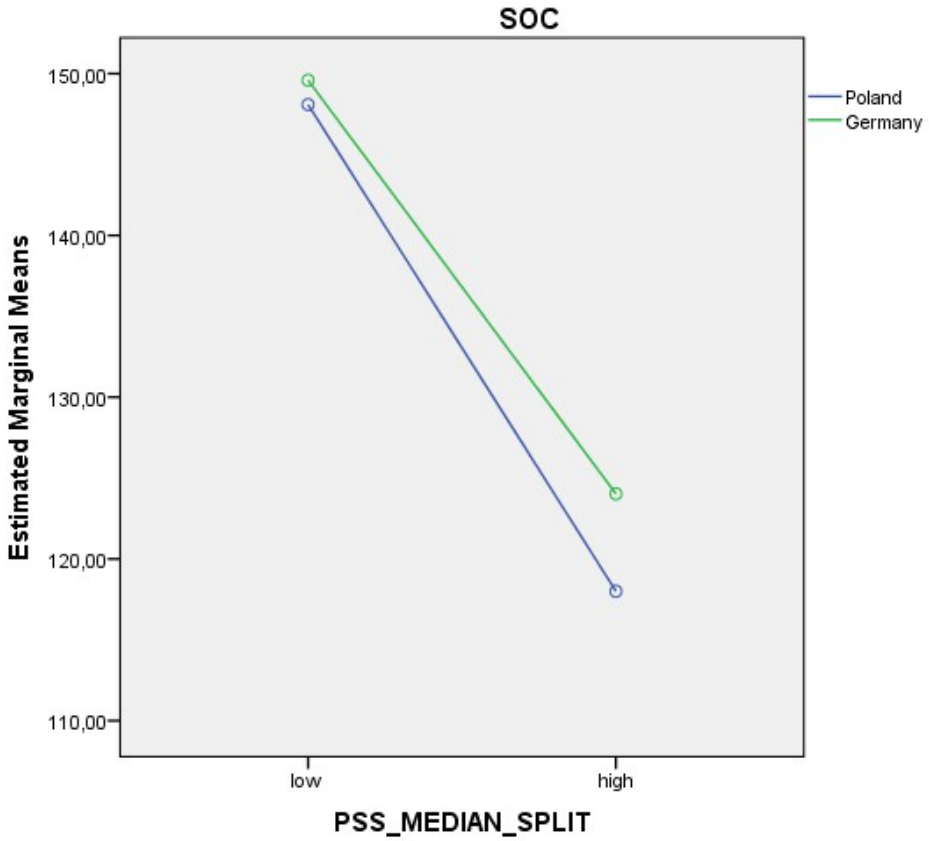
Analysis:	Post hoc: Compute achieved power		
Input:	Effect size f	=	0.10
	α err prob	=	0.178
	Total sample size	=	2266
	Numerator df	=	1
	Number of groups	=	4
	Number of covariates	=	1
Output:	Noncentrality parameter λ	=	22.6600000
	Critical F	=	1.8153733
	Denominator df	=	2261
	Power (1-β err prob)	=	0.9996780

Interaction 5, PSS and country on SOC

Tests of Between-Subjects Effects

Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	407977,918[a]	3	135992,639	421,898	,000	,359
Intercept	33315730,923	1	33315730,923	103357,349	,000	,979
PSS_MEDIAN_SPLIT	354255,849	1	354255,849	1099,029	,000	,327
Country	6475,398	1	6475,398	20,089	,000	,009
PSS_MEDIAN_SPLIT * Country	2344,071	1	2344,071	7,272	,007	,003
Error	729122,644	2262	322,335			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				



PSS for the german sample

Group Statistics

	PSS_Median_Split	N	Mean	Std. Deviation	Std. Error Mean
SOC	low	727	149,5887	14,17735	,52581
	high	896	124,0257	18,74267	,62615

PSS for the polish sample

Group Statistics

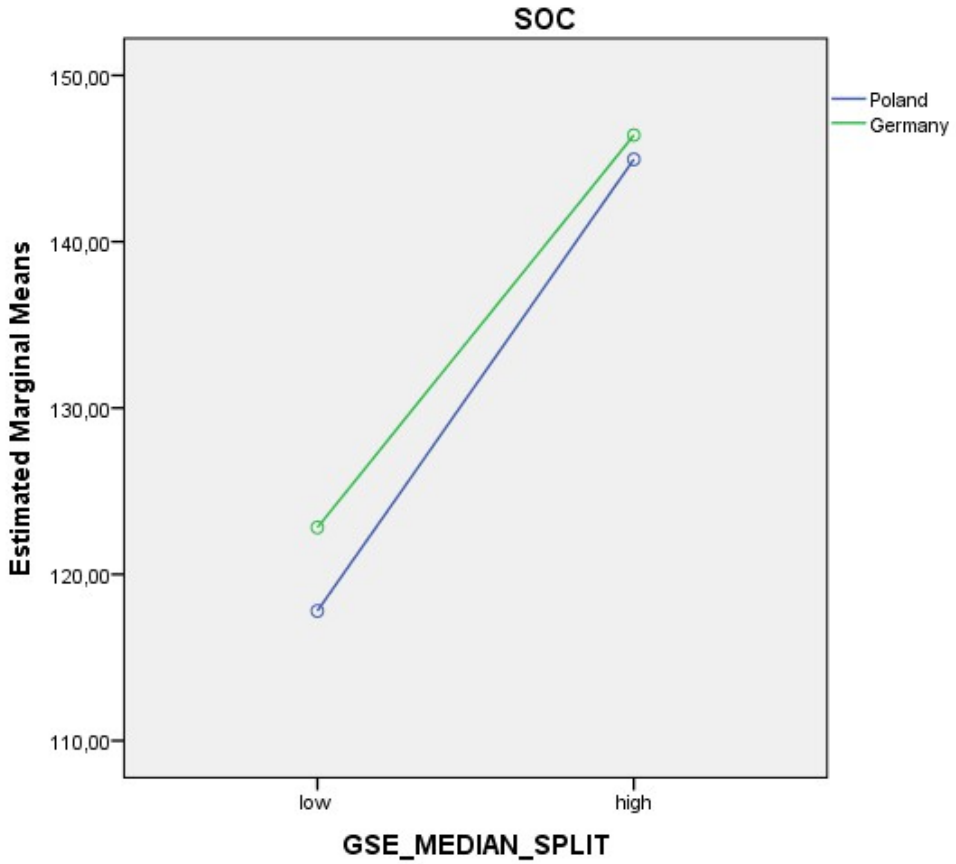
	PSS_Median_Split	N	Mean	Std. Deviation	Std. Error Mean
SOC	low	344	148,0901	18,55935	1,00065
	high	299	118,0000	22,48415	1,30029

Interaction 5, GSE and country on SOC

Tests of Between-Subjects Effects

Dependent Variable: SOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Particles Eta²
Corrected Model	339109,869[a]	3	113036,623	320,416	,000	,298
Intercept	31585492,469	1	31585492,469	89532,854	,000	,975
GSE_MEDIAN_SPLIT	287328,620	1	287328,620	814,467	,000	,265
Country	4679,167	1	4679,167	13,264	,000	,006
GSE_MEDIAN_SPLIT * Country	1420,991	1	1420,991	4,028	,045	,002
Error	797990,693	2262	352,781			
Total	42487077,000	2266				
Corrected Total	1137100,562	2265				



GSE for the german sample

Group Statistics

	GSE_Median_Split	N	Mean	Std. Deviation	Std. Error Mean
SOC	low	752	122,8191	19,17609	,69928
	high	871	146,4041	15,97238	,54120

GSE for the polish sample

Group Statistics

	GSE_Median_Split	N	Mean	Std. Deviation	Std. Error Mean
SOC	low	257	117,7977	23,53334	1,46797
	high	386	144,9508	20,26462	1,03144

Annex 9a Testing the assumptions of linear regression for the whole sample (N=2266)

The multiple linear regression makes several key assumptions. When these assumptions are not fulfilled, the results are not trustworthy (Backhaus et al., 2003).

1. The model is correctly specified, which implies the following:

a) The model is linear in its parameters (linearity);

b) It considers all the relevant explanatory variables (consider as fulfilled).

c) The number of measurements (observations) is larger than the number of parameters (consider as fulfilled, N=2266).

2. The expected value of the error term is zero (consider as fulfilled).

3. The independent variable is uncorrelated with the error term (consider as fulfilled).

4. The variance of the error term is constant for all the values of the independent (homoscedasticity).

5. There is no auto-correlation.

6. There is no or little multicollinearity between independent variables.

7. The error term is normal distributed (consider as fulfilled, N=2266).

1a) Linearity. To interpret the strength of these correlations, a table from Brosius (1998) was used. All dependent variables correlated weakly (under 0,2) but significantly ($p<0,05$) with dependent variables (the Pearson product–moment correlation). The assumption was fulfilled.

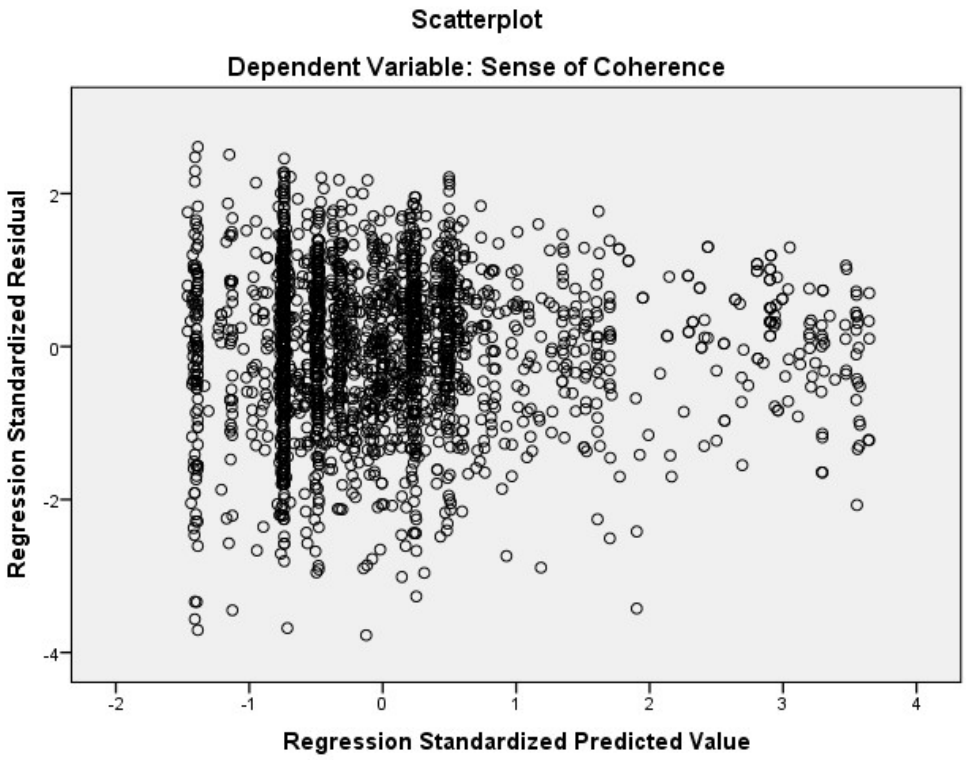
Correlation coefficient	Possible interpretation
0	no correlation
More than 0 to 0,2	very week correlation
More than 0,2 to 0,4	week correlation
More than 0,4 to 0,6	medium correlation
More than 0,6 to 0,8	strong correlation
More than 0,8 bis to 1	very strong correlation
1	perfect correlation

Correlation

		SOC	Country	SCSORF	ORA	NORA
SOC	Pearson-Correlation	1	,028	,135**	,157**	,141**
	Sig. (2-tailed)		,187	,000	,000	,000
	N	2266	2266	2266	2266	2266
Country	Pearson-Correlation	,028	1	-,320**	-,368**	-,313**
	Sig. (2-tailed)	,187		,000	,000	,000
	N	2266	2266	2266	2266	2266
SCSORF	Pearson-Correlation	,135**	-,320**	1	,781**	,778**
	Sig. (2-tailed)	,000	,000		,000	,000
	N	2266	2266	2266	2266	2266
ORA	Pearson-Correlation	,157**	-,368**	,781**	1	,757**
	Sig. (2-tailed)	,000	,000	,000		,000
	N	2266	2266	2266	2266	2266
NORA	Pearson-Correlation	,141**	-,313**	,778**	,757**	1
	Sig. (2-tailed)	,000	,000	,000	,000	
	N	2266	2266	2266	2266	2266

**. Correlation is significant at the level 0,01 (2-tailed)

4. Homoscedasticity. The points on the x axis should gather around 0. The scatter-plot showed that the cluster of points is approximately the same in width around 0. At the same time, only fewer points were cumulated around 2 to 4 on the x axis. The assumption was fulfilled.



5. Auto-correlation. In this study the Durbin–Watson was 1,877 (see 'Model Summary'). The assumption was fulfilled.

6. Multicollinearity occurs when independent variables are highly correlated. In this study, a variance inflation factor (VIF) was used in order to test this assumption. VIF >10 means correlated, 5 <VIF <10 means moderately correlated, and VIF=1 means not correlated (Field 2013). According to the table below VIF <5, multicollinearity was not an issue in this study.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	128,424	1,131		113,581	,000		
	SCSORF	,311	,048	,135	6,467	,000	1,000	1,000
2	(Constant)	129,293	1,172		110,318	,000		
	SCSORF	,147	,076	,063	1,916	,055	,394	2,536
	NORA	1,205	,436	,092	2,763	,006	,394	2,536
3	(Constant)	129,081	1,172		110,184	,000		
	SCSORF	,017	,086	,008	,202	,840	,308	3,243
	NORA	,631	,470	,048	1,342	,180	,337	2,965
	ORA	1,549	,483	,115	3,205	,001	,334	2,993
4	(Constant)	123,956	1,619		76,570	,000		
	SCSORF	,031	,086	,013	,359	,719	,308	3,247
	NORA	,706	,469	,054	1,506	,132	,337	2,968
	ORA	1,934	,489	,144	3,959	,000	,324	3,085
	Country	5,052	1,107	,102	4,565	,000	,861	1,162

a. Dependent Variable: Sense of Coherence

Annex 9a Stepwise multiple linear regression for the whole sample

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SCSORF[b]	.	Enter
2	NORA[b]	.	Enter
3	ORA1[b]	.	Enter
4	Country[b]	.	Enter

a. Dependent Variable: SOC

b. All requested variables entered.

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig	
1	,135[a]	,018	,018	22,20684	,018	41,821	1	2264	,000	
2	,146[b]	,021	,021	22,17436	,003	7,635	1	2263	,006	
3	,161[c]	,026	,025	22,12908	,004	10,272	1	2262	,001	
4	,186[d]	,035	,033	22,03266	,009	20,841	1	2261	,000	1,877

a. Predictors: (Constant), SCSORF

b. Predictors: (Constant), SCSORF, NORA

c. Predictors: (Constant), SCSORF, NORA, ORA

d. Predictors: (Constant), SCSORF, NORA, ORA, Country

e. Dependent Variable: SOC

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20623,608	1	20623,608	41,821	,000[b]
	Residual	1116476,954	2264	493,144		
	Total	1137100,562	2265			
2	Regression	24377,961	2	12188,980	24,789	,000[c]
	Residual	1112722,601	2263	491,702		
	Total	1137100,562	2265			
3	Regression	29407,916	3	9802,639	20,018	,000[d]
	Residual	1107692,646	2262	489,696		
	Total	1137100,562	2265			
4	Regression	39524,708	4	9881,177	20,355	,000[e]
	Residual	1097575,854	2261	485,438		
	Total	1137100,562	2265			

a. Dependent Variable: SOC

b. Predictors: (Constant), SCSORF

c. Predictors: (Constant), SCSORF, NORA

d. Predictors: (Constant), SCSORF, NORA, ORA,

e. Predictors: (Constant), SCSORF, NORA, ORA, Country

Coefficients[a]

Model		Unstandardised Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	128,424	1,131		113,581	,000		
	SCSORF	,311	,048	,135	6,467	,000	1,000	1,000
2	(Constant)	129,293	1,172		110,318	,000		
	SCSORF	,147	,076	,063	1,916	,055	,394	2,536
	NORA	1,205	,436	,092	2,763	,006	,394	2,536
3	(Constant)	129,081	1,172		110,184	,000		
	SCSORF	,017	,086	,008	,202	,840	,308	3,243
	NORA	,631	,470	,048	1,342	,180	,337	2,965
	ORA	1,549	,483	,115	3,205	,001	,334	2,993
4	(Constant)	123,956	1,619		76,570	,000		
	SCSORF	,031	,086	,013	,359	,719	,308	3,247
	NORA	,706	,469	,054	1,506	,132	,337	2,968
	ORA	1,934	,489	,144	3,959	,000	,324	3,085
	Country	5,052	1,107	,102	4,565	,000	,861	1,162

a. Dependent Variable: SOC

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	NORA	,092[b]	2,763	,006	,058	,394	2,536	,394
	ORA	,133[b]	4,016	,000	,084	,391	2,560	,391
	Country	,079[b]	3,601	,000	,075	,897	1,114	,897
2	ORA	,115[c]	3,205	,001	,067	,334	2,993	,308
	Country	,086[c]	3,928	,000	,082	,887	1,127	,388
3	Country	,102[d]	4,565	,000	,096	,861	1,162	,308

a. Dependent Variable: SOC

b. Predictors in the Model: (Constant), SCSORF

c. Predictors in the Model: (Constant), SCSORF, NORA

d. Predictors in the Model: (Constant), SCSORF, NORA, ORA

Annex 9b Testing the assumptions of linear regression for the german sample (N=1623)

1. The model is correctly specified, which implies the following:

a) The model is linear in its parameters (linearity);

b) It considers all the relevant explanatory variables (consider as fulfilled).

c) The number of measurements (observations) is larger than the number of parameters (consider as fulfilled, N=1623).

2. The expected value of the error term is zero (consider as fulfilled).

3. The independent variable is uncorrelated with the error term (consider as fulfilled).

4. The variance of the error term is constant for all the values of the independent (homoscedasticity).

5. There is no auto-correlation.

6. There is no or little multicollinearity between independent variables.

7. The error term is normal distributed (consider as fulfilled, N=1623).

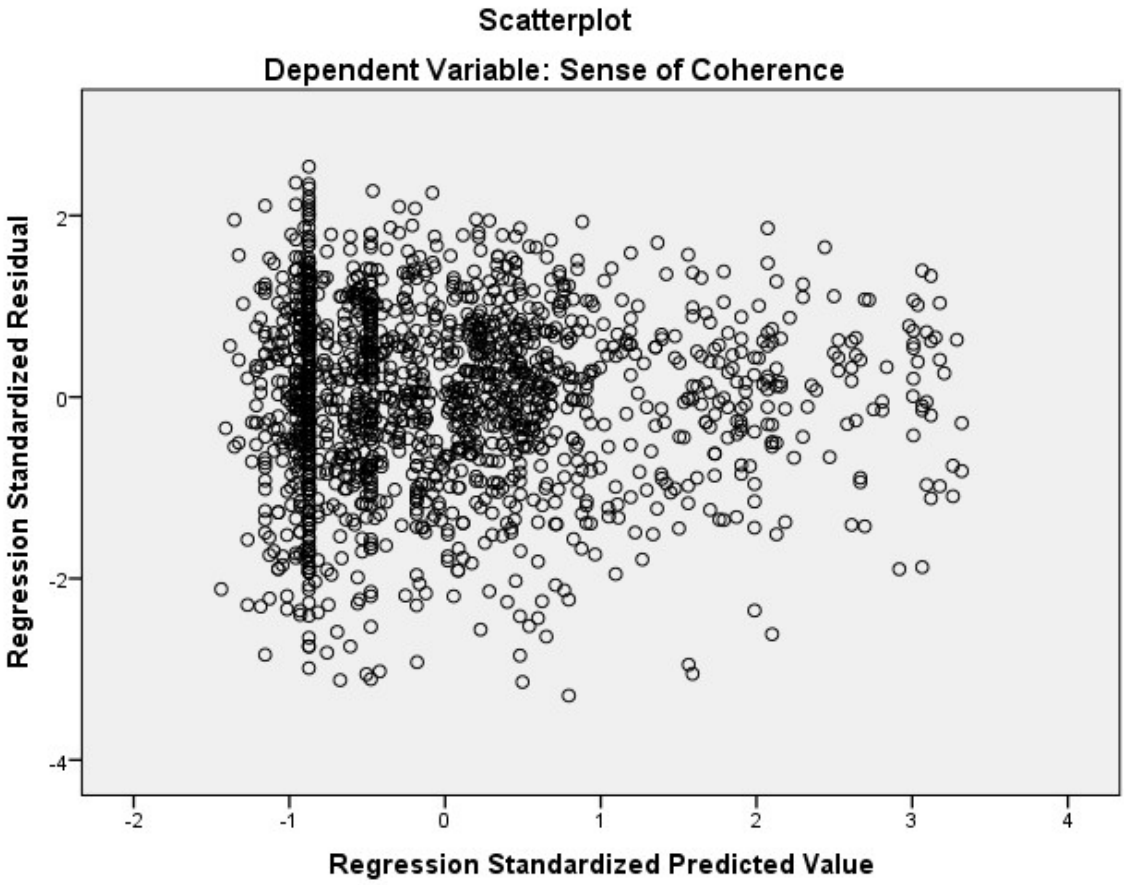
1 a) Linearity. To interpret the strength of these correlations, a table from Brosius (1998) was used. All dependent variables correlated weakly (under 0,2) but significantly ($p<0,05$) with dependent variables (the Pearson product–moment correlation). The assumption was fulfilled.

Correlation

		SOC	SCSORF	ORA	NORA	Catholics	Protestants	Buddhists
SOC	Pearson-Correlation	1	,124**	,157**	,133**	-,003	,087**	,105**
	Sig. (2-tailed)		,000	,000	,000	,913	,000	,000
	N	1623	1623	1623	1623	1623	1623	1623
SCSORF	Pearson-Correlation	,124**	1	,777**	,769**	,170**	,318**	,314**
	Sig. (2-tailed)	,000		,000	,000	,000	,000	,000
	N	1623	1623	1623	1623	1623	1623	1623
ORA	Pearson-Correlation	,157**	,777**	1	,723**	,163**	,305**	,362**
	Sig. (2-tailed)	,000	,000		,000	,000	,000	,000
	N	1623	1623	1623	1623	1623	1623	1623
NORA	Pearson-Correlation	,133**	,769**	,723**	1	,050*	,232**	,356**
	Sig. (2-seitig)	,000	,000	,000		,044	,000	,000
	N	1623	1623	1623	1623	1623	1623	1623
Catholics	Pearson-Correlation	-,003	,170**	,163**	,050*	1	-,321**	-,118**
	Sig. (2-tailed)	,913	,000	,000	,044		,000	,000
	N	1623	1623	1623	1623	1623	1623	1623
Protestants	Pearson-Correlation	,087**	,318**	,305**	,232**	-,321**	1	-,160**
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,000
	N	1623	1623	1623	1623	1623	1623	1623
Buddhists	Pearson-Correlation	,105**	,314**	,362**	,356**	-,118**	-,160**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	
	N	1623	1623	1623	1623	1623	1623	1623

**. Correlation is significant at the level 0,01 (2-tailed)

4. Homoscedasticity. The points on the x axis should gather around 0. The scatter-plot showed that the cluster of points is approximately the same in width around 0. At the same time, only fewer points were cumulated around 2 to 4 on the x axis. The assumption was fulfilled.



5. Auto-correlation. In this study the Durbin–Watson was 1,881 (see 'Model Summary'). The assumption was fulfilled.

6. Multicollinearity occurs when independent variables are highly correlated. In this study, a variance inflation factor (VIF) was used in order to test this assumption. VIF >10 means correlated, 5 <VIF <10 means moderately correlated, and VIF=1 means not correlated (Field 2013). According to the table below VIF <10, multicollinearity was not an issue in this study.

Coefficients[a]

Model		Unstandardised Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	129,779	1,250		103,819	,000		
	SCSORF	,293	,058	,124	5,012	,000	1,000	1,000
2	(Constant)	130,602	1,294		100,922	,000		
	SCSORF	,124	,091	,052	1,355	,176	,408	2,449
	NORA	1,322	,549	,093	2,409	,016	,408	2,449
3	(Constant)	130,451	1,291		101,068	,000		
	SCSORF	-,054	,105	-,023	-,511	,609	,306	3,265
	NORA	,715	,576	,050	1,241	,215	,368	2,714
	ORA	2,013	,596	,139	3,376	,001	,358	2,796
4	(Constant)	131,109	1,307		100,275	,000		
	SCSORF	-,106	,109	-,045	-,974	,330	,283	3,532
	NORA	,638	,587	,045	1,086	,278	,353	2,834
	ORA	1,497	,626	,103	2,390	,017	,323	3,100
	Catholics	1,107	1,597	,021	,693	,488	,677	1,478
	Protestants	3,608	1,459	,079	2,472	,014	,592	1,689
	Buddhists	7,454	2,763	,081	2,698	,007	,667	1,499

a. Dependent Variable: SOC

Annex 9b Stepwise multiple linear regression for the german sample

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SCSORF[b]	.	Enter
2	NORA[b]	.	Enter
3	ORA[b]	.	Enter
4	Catholics, Buddhists, Protestants[b]	.	Enter

a. Dependent Variable: SOC

b. All requested variables entered.

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig	
1	,124[a]	,015	,015	20,95161	,015	25,119	1	1621	,000	
2	,137[b]	,019	,018	20,92065	,004	5,801	1	1620	,016	
3	,160[c]	,026	,024	20,85383	,007	11,398	1	1619	,001	
4	,178[d]	,032	,028	20,80651	,006	3,458	3	1616	,016	1,881

a. Predictors: (Constant), SCSORF

b. Predictors: (Constant), SCSORF, NORA

c. Predictors: (Constant), SCSORF, NORA, ORA

d. Predictors: (Constant), SCSORF, NORA, ORA, Catholics, Buddhists, Protestants

e. Dependen Variable: SOC

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11026,527	1	11026,527	25,119	,000[b]
	Residual	711570,310	1621	438,970		
	Total	722596,837	1622			
2	Regression	13565,595	2	6782,797	15,497	,000[c]
	Residual	709031,242	1620	437,674		
	Total	722596,837	1622			
3	Regression	18522,260	3	6174,087	14,197	,000[d]
	Residual	704074,577	1619	434,882		
	Total	722596,837	1622			
4	Regression	23013,197	6	3835,533	8,860	,000[e]
	Residual	699583,639	1616	432,911		
	Total	722596,837	1622			

a. Dependent Variable: SOC

b. Predictors: (Constant), SCSORF

c. Predictors: (Constant), SCSORF, NORA

d. Predictors: (Constant), SCSORF, NORA , ORA

e. Predictors: (Constant), SCSORF, NORA, ORA, Catholics, Buddhists, Protestants

Coefficients[a]

Model		Unstandardised Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	129,779	1,250		103,819	,000		
	SCSORF	,293	,058	,124	5,012	,000	1,000	1,000
2	(Constant)	130,602	1,294		100,922	,000		
	SCSORF	,124	,091	,052	1,355	,176	,408	2,449
	NORA	1,322	,549	,093	2,409	,016	,408	2,449
3	(Constant)	130,451	1,291		101,068	,000		
	SCSORF	-,054	,105	-,023	-,511	,609	,306	3,265
	NORA	,715	,576	,050	1,241	,215	,368	2,714
	ORA	2,013	,596	,139	3,376	,001	,358	2,796
4	(Constant)	131,109	1,307		100,275	,000		
	SCSORF	-,106	,109	-,045	-,974	,330	,283	3,532
	NORA	,638	,587	,045	1,086	,278	,353	2,834
	ORA	1,497	,626	,103	2,390	,017	,323	3,100
	Catholics	1,107	1,597	,021	,693	,488	,677	1,478
	Protestants	3,608	1,459	,079	2,472	,014	,592	1,689
	Buddhists	7,454	2,763	,081	2,698	,007	,667	1,499

a. Dependent Variable: SOC

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	NORA	,093[b]	2,409	,016	,060	,408	2,449	,408
	ORA	,154[b]	3,961	,000	,098	,396	2,524	,396
	Catholics	-,024[b]	-,975	,330	-,024	,971	1,030	,971
	Protestants	,053[b]	2,028	,043	,050	,899	1,112	,899
	Buddhists	,074[b]	2,838	,005	,070	,902	1,109	,902
2	ORA	,139[c]	3,376	,001	,084	,358	2,796	,306
	Catholics	-,017[c]	-,674	,500	-,017	,955	1,047	,391
	Protestants	,054[c]	2,081	,038	,052	,899	1,113	,388
	Buddhists	,064[c]	2,427	,015	,060	,869	1,151	,394
3	Catholics	-,025[d]	-1,003	,316	-,025	,947	1,056	,301
	Protestants	,045[d]	1,730	,084	,043	,888	1,126	,300
	Buddhists	,052[d]	1,952	,051	,048	,850	1,177	,306

a. Dependent Variable: SOC

b. Predictors in the Model: (Constant), SCSORF

c. Predictors in the Model: (Constant), SCSORF, NORA

d. Predictors in the Model: (Constant), SCSORF, NORA, ORA

Annex 9c Testing the assumptions of linear regression for the polish sample (N=643)

1. The model is correctly specified, which implies the following:

a) The model is linear in its parameters (linearity);

b) It considers all the relevant explanatory variables (consider as fulfilled).

c) The number of measurements (observations) is larger than the number of parameters (consider as fulfilled, N=643).

2. The expected value of the error term is zero (consider as fulfilled).

3. The independent variable is uncorrelated with the error term (consider as fulfilled).

4. The variance of the error term is constant for all the values of the independent (homoscedasticity).

5. There is no auto-correlation.

6. There is no or little multicollinearity between independent variables.

7. The error term is normal distributed (consider as fulfilled, N=643).

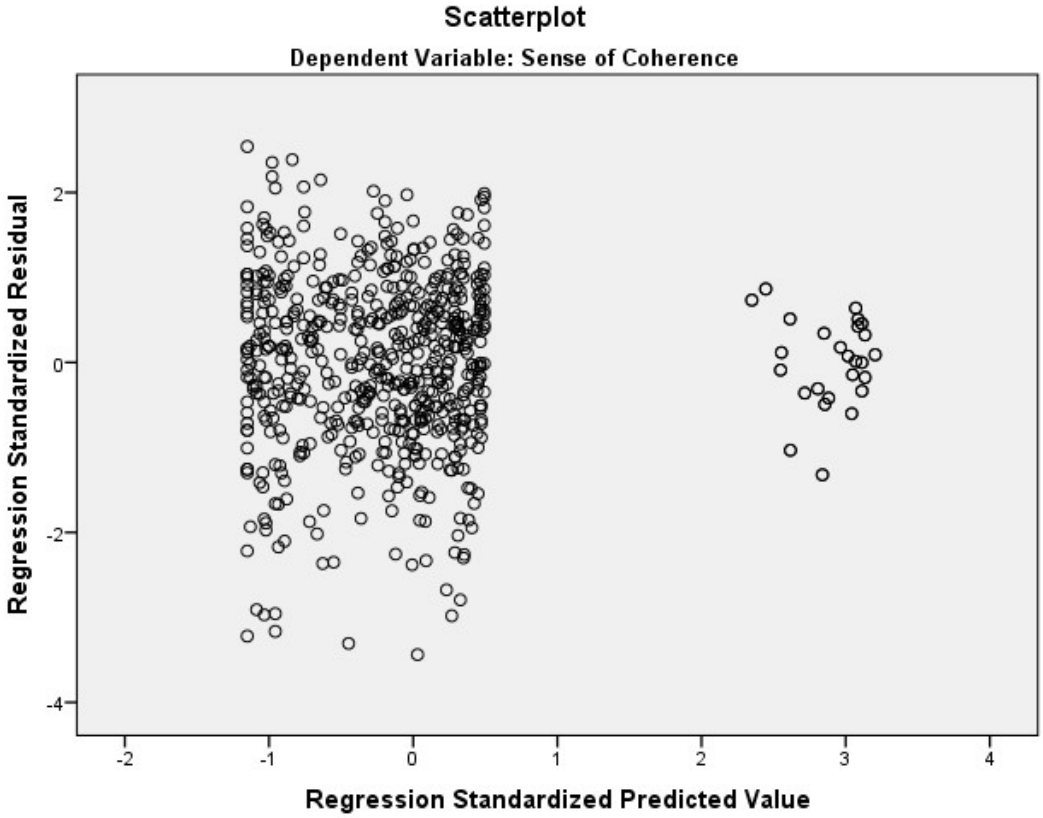
1 a) Linearity. To interpret the strength of these correlations, a table from Brosius (1998) was used. All dependent variables correlated weakly (0,2) but significantly (p<0,05) with dependent variables (the Pearson product–moment correlation). The assumption was fulfilled.

Correlation

		SOC	SCSORF	ORA	NORA	Catholics	Buddhists
SOC	Pearson-Correlation	1	,205**	,220**	,198**	,008	,293**
	Sig. (2-tailed)		,000	,000	,000	,848	,000
	N	643	643	643	643	643	643
SCSORF	Pearson-Correlation	,205**	1	,708**	,732**	,427**	,180**
	Sig. (2-tailed)	,000		,000	,000	,000	,000
	N	643	643	643	643	643	643
ORA	Pearson-Correlation	,220**	,708**	1	,732**	,583**	,210**
	Sig. (2-tailed)	,000	,000		,000	,000	,000
	N	643	643	643	643	643	643
NORA	Pearson-Correlation	,198**	,732**	,732**	1	,388**	,207**
	Sig. (2-tailed)	,000	,000	,000		,000	,000
	N	643	643	643	643	643	643
Catholics	Pearson-Correlation	,008	,427**	,583**	,388**	1	-,414**
	Sig. (2-tailed)	,848	,000	,000	,000		,000
	N	643	643	643	643	643	643
Buddhists	Pearson-Correlation	,293**	,180**	,210**	,207**	-,414**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	
	N	643	643	643	643	643	643

**. Correlation is significant at the level 0,01 (2-tailed)

4. Homoscedasticity. The points on the x axis should gather around 0. The scatter-plot showed that the cluster of points is approximately the same in width around 0. The assumption was fulfilled.



5. Auto-correlation. In this study the Durbin–Watson was 1,979 (see 'Model Summary'). The assumption was fulfilled.

6. Multicollinearity occurs when independent variables are highly correlated. In this study, a variance inflation factor (VIF) was used in order to test this assumption. VIF >10 means correlated, 5 <VIF <10 means moderately correlated, and VIF=1 means not correlated (Field 2013). According to the table below VIF <10, multicollinearity was not an issue in this study.

Coefficients[a]

Model		Unstandardised Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	126,114	1,846		68,335	,000		
	NORA	2,619	,513	,198	5,109	,000	1,000	1,000
2	(Constant)	121,163	2,837		42,706	,000		
	NORA	1,362	,750	,103	1,816	,070	,464	2,153
	SCSORF	,333	,145	,130	2,292	,022	,464	2,153
3	(Constant)	119,898	2,889		41,503	,000		
	NORA	,559	,835	,042	,669	,504	,373	2,684
	SCSORF	,208	,156	,081	1,330	,184	,400	2,498
	ORA	1,892	,875	,132	2,162	,031	,400	2,503
4	(Constant)	121,014	2,801		43,199	,000		
	NORA	,234	,811	,018	,288	,773	,370	2,706
	SCSORF	,187	,152	,073	1,230	,219	,397	2,521
	ORA	1,019	1,046	,071	,973	,331	,262	3,821
	Catholics	2,366	3,345	,044	,707	,480	,356	2,810
	Buddhists	26,019	4,823	,280	5,394	,000	,516	1,938

a. Dependent Variable: SOC

Annex 9c Stepwise multiple linear regression for the polish sample

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SCSORF[b]	.	Enter
2	ORA[b]	.	Enter
3	NORA[b]	.	Enter
4	Buddhists, Catholics[b]	.	Enter

a. Dependent Variable: SOC

b. All requested variables entered.

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin - Watson
					R Square Change	F Change	df1	df2	Sig	
1	,198[a]	,039	,038	24,90050	,039	26,106	1	641	,000	
2	,217[b]	,047	,044	24,81830	,008	5,253	1	640	,022	
3	,232[c]	,054	,049	24,74733	,007	4,676	1	639	,031	
4	,341[d]	,116	,109	23,95483	,062	22,490	2	637	,000	1,979

a. Predictors: (Constant), NORA

b. Predictors: (Constant), NORA, SCSORF

c. Predictors: (Constant), NORA, SCSORF, ORA

d. Predictors: (Constant), NORA, SCSORF, ORA, Buddhistics, Catholics

e. Dependent Variable: SOC

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1		17389,653	1	17389,653	28,131	,000[b]
	Regression	396239,174	641	618,158		
	Residual	413628,827	642			
2	Total	22011,383	2	11005,691	17,986	,000[c]
	Regression	391617,445	640	611,902		
	Residual	413628,827	642			
3	Total	22285,782	3	7428,594	12,130	,000[d]
	Regression	391343,045	639	612,430		
	Residual	413628,827	642			
4	Total	48096,618	5	9619,324	16,763	,000[e]
	Regression	365532,210	637	573,834		
	Residual	413628,827	642			

a. Dependent Variable: SOC

b. Predictors: (Constant), SCSORF

c. Predictors: (Constant), SCSORF, ORA

d. Predictors: (Constant), SCSORF, ORA, NORA

e. Predictors: (Constant), SCSORF, ORA, NORA, Buddhists, Catholics

Coefficients[a]

Model		Unstandardised Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	126,114	1,846		68,335	,000		
	NORA	2,619	,513	,198	5,109	,000	1,000	1,000
2	(Constant)	121,163	2,837		42,706	,000		
	NORA	1,362	,750	,103	1,816	,070	,464	2,153
	SCSORF	,333	,145	,130	2,292	,022	,464	2,153
3	(Constant)	119,898	2,889		41,503	,000		
	NORA	,559	,835	,042	,669	,504	,373	2,684
	SCSORF	,208	,156	,081	1,330	,184	,400	2,498
	ORA	1,892	,875	,132	2,162	,031	,400	2,503
4	(Constant)	121,014	2,801		43,199	,000		
	NORA	,234	,811	,018	,288	,773	,370	2,706
	SCSORF	,187	,152	,073	1,230	,219	,397	2,521
	ORA	1,019	1,046	,071	,973	,331	,262	3,821
	Catholics	2,366	3,345	,044	,707	,480	,356	2,810
	Buddhists	26,019	4,823	,280	5,394	,000	,516	1,938

a. Dependent Variable: SOC

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	ORA	,150[b]	2,748	,006	,108	,498
	NORA	,103[b]	1,816	,070	,072	,464
	Catholic	-,098[b]	-2,299	,022	-,090	,817
	Buddhistic	,265[b]	6,982	,000	,266	,968
2	NORA	,042[c]	,669	,504	,026	,373
	Catholics	-,185[c]	-3,948	,000	-,154	,660
	Buddhists	,256[c]	6,708	,000	,256	,954
3	Catholics	-,183[d]	-3,900	,000	-,153	,655
	Buddhists	,255[d]	6,672	,000	,255	,950

a. Dependent Variable: SOC

b. Predictors in the Model: (Constant), SCSORF

c. Predictors in the Model: (Constant), SCSORF, ORA

d. Predictors in the Model: (Constant), SCSORF, ORA, NORA

Scales

Fragebogen zur Lebensorientierung (SOC-29)

Die folgenden Fragen beziehen sich auf verschiedene Aspekte Ihres Lebens. Auf jede Frage gibt es sieben mögliche Antworten. Bitte kreuzen Sie jeweils die Zahl an, die Ihre Antwort ausdrückt. Geben Sie auf jede Frage nur eine Antwort.

1. Wenn Sie mit anderen Leuten sprechen, haben Sie das Gefühl, dass diese Sie nicht verstehen?

1	2	3	4	5	6	7
habe nie das Gefühl						habe immer das Gefühl

2. Wenn Sie in der Vergangenheit etwas machen mussten, das von der Zusammenarbeit mit anderen abhing, hatten Sie das Gefühl, dass die Sache

1	2	3	4	5	6	7
keinesfalls erledigt werden würde						sicher erledigt werden würde

3. Abgesehen von denjenigen, denen Sie sich am nächsten fühlen – wie gut kennen Sie die meisten Menschen, mit denen Sie täglich zu tun haben?

1	2	3	4	5	6	7
sie sind Ihnen völlig fremd						sie kennen sie sehr gut

4. Haben Sie das Gefühl, dass es Ihnen ziemlich gleichgültig ist, was um Sie herum passiert?

1	2	3	4	5	6	7
äußerst selten oder nie						sehr oft

5. Waren Sie schon überrascht vom Verhalten von Menschen, die Sie gut zu kennen glaubten?

1	2	3	4	5	6	7
das ist nie passiert						das kommt immer wieder vor

6. Haben Menschen, auf die Sie gezählt haben, Sie enttäuscht?

1	2	3	4	5	6	7
das ist nie passiert						das kommt immer wieder vor

7. Das Leben ist

1	2	3	4	5	6	7
ausgesprochen interessant						reine Routine

8. Bis jetzt hatte Ihr Leben

1	2	3	4	5	6	7
überhaupt keinen klaren Ziele						sehr klare Ziele

9. Haben Sie das Gefühl ungerecht behandelt zu werden?

1	2	3	4	5	6	7
sehr oft						äußerst selten oder nie

10. In den letzten zehn Jahren war ihr Leben

1	2	3	4	5	6	7
voller Veränderungen, ohne dass Sie wussten, was als nächstes passieren wird						ganz klar und beständig

11. Das meiste, was Sie in Zukunft tun werden, wird wahrscheinlich

1	2	3	4	5	6	7
völlig faszinierend sein						todlangweilig sein

12. Haben Sie das Gefühl, in einer ungewohnten Situation zu sein und nicht zu wissen, was Sie tun sollen?

1	2	3	4	5	6	7
äußerst selten oder nie						sehr oft

13. Was beschreibt am Besten, wie Sie das Leben sehen?

1	2	3	4	5	6	7
man kann für schmerzliche Dinge im Leben immer eine Lösung finden						es gibt keine Lösung für schmerzliche Dinge im Leben

14. Wenn Sie über Ihr Leben nachdenken, passiert es sehr häufig, dass Sie

1	2	3	4	5	6	7
fühlen, wie schön es ist zu leben						sich fragen, warum Sie überhaupt da sind

15. Wenn Sie vor einem schwierigen Problem stehen , ist die Wahl einer Lösung

1	2	3	4	5	6	7
immer verwirrend und schwierig						immer völlig klar

16. Das, was Sie täglich tun, ist für Sie eine Quelle

1	2	3	4	5	6	7
Tiefer Freude und Zufriedenheit						von Schmerz und Langeweile

17. Ihr Leben wird in Zukunft wahrscheinlich

1	2	3	4	5	6	7
voller Veränderungen sein, ohne dass Sie wissen was als nächstes passieren wird						ganz klar und beständig sein

18. Wenn in der Vergangenheit etwas Unangenehmes geschah, neigten Sie dazu,

1	2	3	4	5	6	7
sich daran zu verzehren						zu sagen: „Sei es drum, ich muss damit leben“ und weiter-zumachen

19. Wie oft sind Ihre Gefühle und Ideen ganz durcheinander?

1	2	3	4	5	6	7
sehr oft						äußerst selten oder nie

20. Wenn Sie etwas machen, das Ihnen ein gutes Gefühl gibt,

1	2	3	4	5	6	7
werden Sie sich sicher auch weiterhin gut fühlen						wird sicher etwas geschehen, das das Gefühl verdirbt

21. Kommt es vor, dass Sie Gefühle haben, die Sie lieber nicht hätten?

1	2	3	4	5	6	7
sehr oft						äußerst selten oder nie

22. Sie nehmen an, dass Ihr zukünftiges Leben

1	2	3	4	5	6	7
ohne Sinn und Zweck sein wird						voller Sinn und Zweck sein wird

23. Glauben Sie, dass es in Zukunft immer Personen geben wird, auf die Sie zählen können?

1	2	3	4	5	6	7
Sie sind sich dessen ganz sicher						Sie zweifeln daran

24. Kommt es vor, dass Sie das Gefühl haben, nicht genau zu wissen, was gerade passiert?

1	2	3	4	5	6	7
sehr oft						äußerst selten oder nie

25. Viele Menschen – auch solche mit einem starken Charakter – fühlen sich in bestimmten Situationen wie ein Pechvogel. Wie oft haben Sie sich in der Vergangenheit so gefühlt?

1	2	3	4	5	6	7
äußerst selten oder nie						sehr oft

26. Wenn etwas passierte, fanden Sie im allgemeinen, dass Sie dessen Bedeutung

1	2	3	4	5	6	7
unter- oder überschätzten						richtig einschätzten

27. Wenn Sie an Schwierigkeiten denken, mit denen Sie in wichtigen Lebensbereichen wahrscheinlich konfrontiert werden, haben Sie das Gefühl, dass

1	2	3	4	5	6	7
es Ihnen immer gelingen wird, die Schwierigkeiten zu meistern						Sie die Schwierigkeiten nicht werden meistern können

28. Wie oft haben Sie das Gefühl, dass die Dinge, die Sie täglich tun, wenig Sinn haben?

1	2	3	4	5	6	7
sehr oft						äußerst selten oder nie

29. Wie oft haben sie Gefühle, bei denen Sie nicht sicher sind, ob Sie sie kontrollieren können?

1	2	3	4	5	6	7
sehr oft						äußerst selten oder nie

Die Stärke der religiösen Überzeugung (SCSORF)

Bitte beantworten Sie die folgenden Fragen zu Ihrer Religiosität, in dem sie mit Hilfe folgender Skala für jede Aussage Ihre Zustimmung (oder Ablehnung) ausdrücken.

1. Mein Glaube ist für mich extrem wichtig.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

2. Ich bete jeden Tag.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

3. Mein Glaube ist für mich eine Quelle der Inspiration.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

4. Es ist mein Glaube, der meinem Leben Sinn und Bedeutung gibt.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

5. Ich schätze mich selber als aktiv in meinem Glauben oder meiner Kirche ein.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

6. Mein Glaube ist ein wichtiger Aspekt meiner Persönlichkeit.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

7. Meine Beziehung zu Gott ist für mich extrem wichtig.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

8. Ich bin gerne mit Menschen meiner Glaubensüberzeugungen zusammen.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

9. Mein Glaube ist für mich eine Quelle des Trostes.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

10. Mein Glaube beeinflusst viele meiner Entscheidungen.

starke Ablehnung	Ablehnung	Zustimmung	starke Zustimmung
1	2	3	4

ORA und NORA (DUREL)

Bitte antworten Sie auf die folgenden Fragen, die Ihr religiöses Engagement betreffen.

1. Wie oft gehen Sie in die Kirche, besuchen andere religiöse Treffens oder Gemeinde

1) öfter als ein mal pro Woche	☐
2) ein mal pro Woche	☐
3) mehrmals im Monat	☐
4) mehrmals im Jahr	☐
5) ein mal im Jahr oder seltener	☐
6) nie	☐

2. Wie oft prägen Sie, meditieren oder lesen Sie Bibel?

1) öfter als ein mal pro Tag	☐
2) jeden Tag	☐
3) zwei oder mehrmals in der Woche	☐
4) ein mal in der Woche	☐
5) mehrmals im Monat	☐
6) selten oder nie	☐

Die Stress Wahrnehmung (PSS-10)

Die folgenden Fragen betreffen Ihre Gefühle und Gedanken aus dem letzten Monat. Auf jede Frage gibt es fünf mögliche Antworten. Bitte kreuzen Sie jeweils die Zahl an, die Ihre Antwort ausdrückt. Geben Sie auf jede Frage nur eine Antwort.

1.Wie oft haben Sie sich im letzten Monat aufgeregt, weil etwas Unerwartetes passierte?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

2.Wie oft fühlten Sie sich im letzten Monat unfähig, die in Ihrem Leben wichtigen Dinge „in den Griff“ zu bekommen?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

3. Wie oft fühlten Sie sich im letzten Monat nervös und „gestresst“?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

4.Wie oft waren Sie im letzten Monat zuversichtlich, Ihre persönlichen Probleme lösen zu können?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

5.Wie oft hatten Sie im letzten Monat das Gefühl, dass sich alles in Ihrem Sinne entwickelte?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

6.Wie oft stellten Sie im letzten Monat fest, dass Sie nicht in der Lage waren, all das zu schaffen, das Sie eigentlich hätten erledigen müssen?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

7.Wie oft hatten Sie im letzten Monat das Gefühl, dass Sie mit lästigen Unannehmlichkeiten

fertig geworden sind?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

8.Wie oft hatten Sie im letzten Monat das Gefühl, alles unter Kontrolle zu haben?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

9.Wie oft waren Sie im letzten Monat über Dinge verärgert, die Sie nicht ändern konnten?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

10.Wie oft hatten Sie im letzten Monat das Gefühl, dass die Probleme überhand nahmen?

0	1	2	3	4
nie	fast nie	manchmal	ziemlich oft	sehr oft

Die Selbstwirksamkeit (GSE)

Die folgenden Fragen beziehen sich auf verschiedene Aspekte Ihres Lebens. Auf jede Frage gibt es vier mögliche Antworten. Bitte kreuzen Sie jeweils die Zahl an, die Ihre Antwort ausdrückt. Geben Sie auf jede Frage nur eine Antwort.

1. Wenn sich Widerstände auftun, finde ich Mittel und Wege, mich durchzusetzen.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau

2. Die Lösung schwieriger Probleme gelingt mir immer, wenn ich mich darum bemühe.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau

3. Es bereitet mir keine Schwierigkeiten, meine Absichten und Ziele zu verwirklichen.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau

4. In unerwarteten Situationen weiß ich immer, wie ich mich verhalten soll.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau

5. Auch bei überraschenden Ereignissen glaube ich, dass ich gut mit ihnen zurechtkommen kann.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau

6. Schwierigkeiten sehe ich gelassen entgegen, weil ich meinen Fähigkeiten immer vertrauen kann.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau

7. Was auch immer passiert, ich werde schon klarkommen.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau

8. Für jedes Problem kann ich eine Lösung finden.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau

9. Wenn eine neue Sache auf mich zukommt, weiß ich, wie ich damit umgehen kann.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau

10. Wenn ein Problem auftaucht, kann ich es aus eigener Kraft meistern.

1	2	3	4
stimmt nicht	stimmt kaum	stimmt eher	stimmt genau